



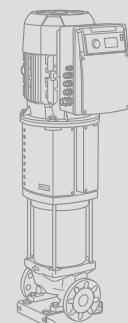
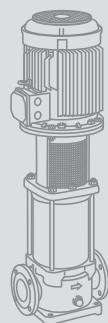
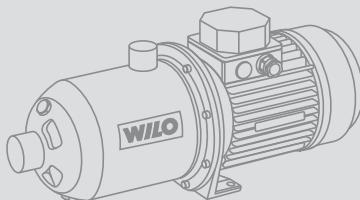
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Catalogue Water Supply

# High-Pressure Multistage Centrifugal Pumps

Pumps  
and Accessories



Catalogue B3 – 50 Hz – 2009

B3



# Programme overview and fields of applications

## High-pressure multistage centrifugal pumps

Pump type	Version	Self-priming	Non self-priming	Fixed speed	Speed-controlled	Main field of application

## High-pressure multistage centrifugal pumps

Single pumps	Wilo-Economy MHIL	-	•	•	-	S/M/C	-	S/M/C	-	S/M/C	S/M/C
	Wilo-Multivert MVIL	-	•	•	-	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Economy MHI	-	•	•	-	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Economy MHIE	-	•	-	•	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Helix V	-	•	•	-	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Helix VE	-	•	-	•	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Multivert MVI	-	•	•	-	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Multivert-MVIE	-	•	-	•	S/M/C	-	S/M/C	S/M/C	S/M/C	S/M/C
	Wilo-Multivert MVIS	-	•	•	-	-	-	-	-	-	-
	Wilo-Multivert MVISE-2G	-	•	-	•	-	-	-	-	-	-

New in the programme or series extension or modification

## High-pressure multistage centrifugal pumps

### Main field of application



-	-	-	M/C	M/C	-	M/C	M/C	M/C	M/C	M/C	-	-	25
-	-	-	M/C	M/C	M/C	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	36
-	-	-	M/C	M/C	M/C	M/C	M/C	M/C	M/C	M/C	-	-	49
-	-	-	M/C	M/C	M/C	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	60
-	-	-	-	-	-	S/M/C	E/M/G	-	-	-	-	-	60
-	-	-	M/C	M/C	M/C	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	74
-	-	-	-	-	-	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	82
-	-	-	M/C	M/C	M/C	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	137
-	-	-	M/C	M/C	M/C	S/M/C	S/M/C	M/C	M/C	M/C	M/C	M/C	186
-	-	-	-	-	-	S/M/C	S/M/C	-	-	-	-	-	197

### Key:

- S** Single- and two-family houses
- M** Multi-family houses
- C** Commercial
- Applicable

- Self-sufficient water supply  
 Rainwater utilisation (as compact unit with -extensible storage tanks)  
 Rainwater utilisation (in conjunction with underground storage tank or rainwater storage)  
 Sprinkling  
 Irrigation  
 Spraying  
 Well and rainwater storage water supply  
 Lowering of ground water-levels  
 Swimming-pool water - circulation  
 Cooling water circulation systems  
 Cold water circulation systems  
 Pure water circulation systems  
 Secondary hot water supply  
 Pressure boosting systems  
 Fire-extinguishing water supply  
 Washing systems  
 Industrial applications  
 Boiler feed  
 Process engineering

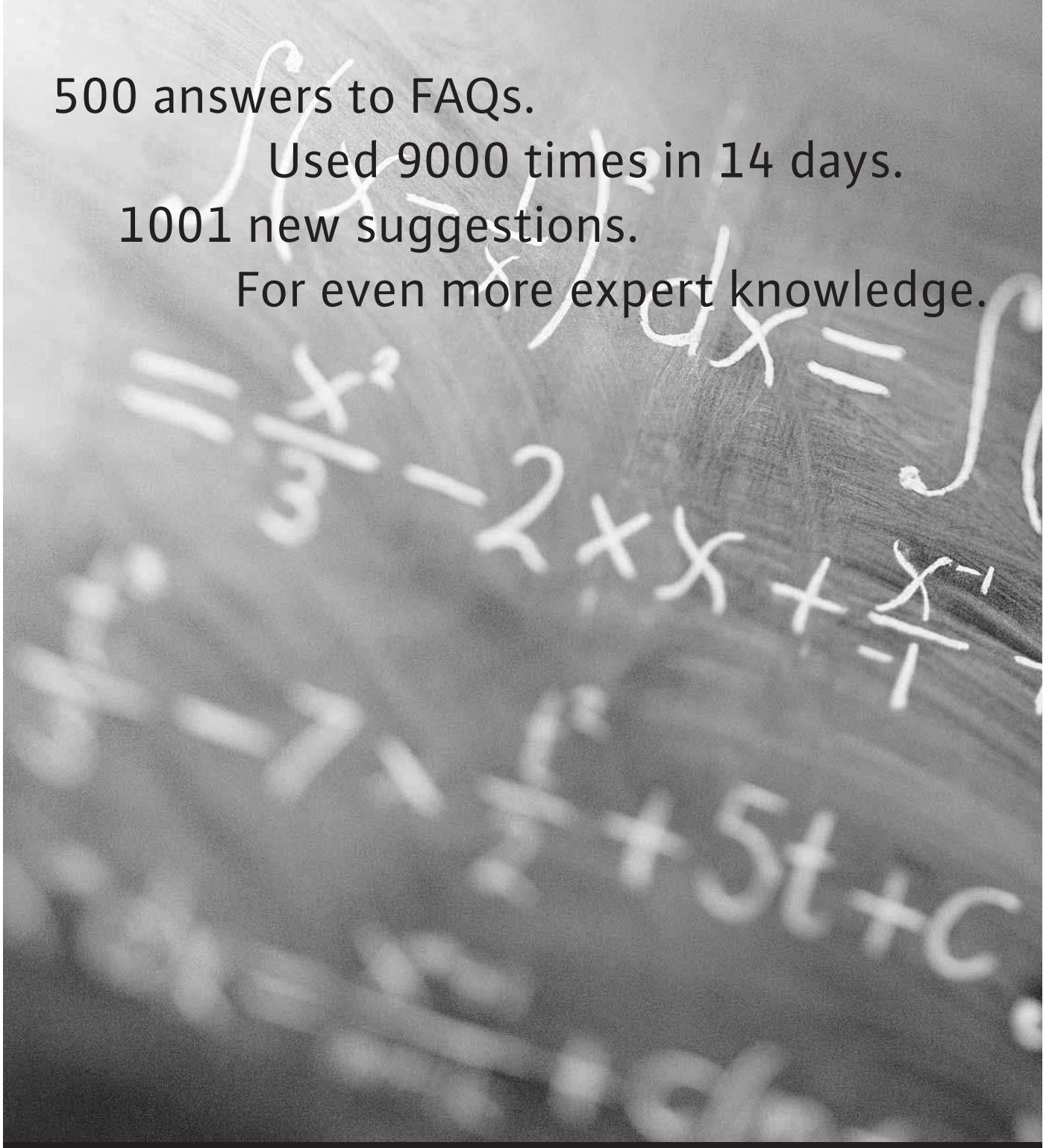
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- Wilo-Economy MHIL
- Wilo-Multivert MVIL
- Wilo-Economy MHI
- Wilo-Economy MHIE
- Wilo-Helix V
- Wilo-Helix VE
- Wilo-Multivert MVI
- Wilo-Multivert MVIE
- Wilo-Multivert MVIS
- Wilo-Multivert MVISE-2G

**Accessories****211**

Single pumps

Accessories



500 answers to FAQs.

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1001 new suggestions.

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Did you know? The knowledge database from Wilo will give you good and quick advice: with approx. 500 responses to the most frequently asked questions (FAQs) all about pumps, installations and systems. It is already being visited extensively by many skilled craftsmen. This is proven by 9000 utilisations in only 14 days, which we recently registered. The best thing: With every new question which you ask us with the contact form, we all become wiser together. Because the corresponding answer is naturally incorporated as soon as possible.

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Pumpen Intelligenz.

### High-pressure multistage centrifugal pumps

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### Accessories

Stainless steel counter flange (oval and round)	211
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Victaulic coupling	211
Bypass line	212
Pressure sensor	212
PTC thermistor tripping unit	212

# General notes and abbreviations

## Abbreviations used and what they mean

Abbreviation	Meaning	Abbreviation	Meaning
1~	1-phase alternating current	SBM	Run signal or collective run signal
1/min	Revolutions per minute	SD	Three-phase motor with star/delta activation
3~	3-phase alternating current	SD-R	Three-phase motor with star/delta activation, rewirable
D	Direct activation	SSM	Fault signal or collective fault signal
°d H	Degree of German water hardness; Replaced with the SI unit mmol/l; conversion: $1^{\circ}\text{dH} = 0.1783 \text{ mmol/l}$	TrinkwV 2001	German Drinking Water Ordinance of 2001 (valid since 01.01.2003)
DM	Three-phase motor with direct activation	TRS	PTC thermistor sensor
DN	Nominal diameter of the flange connection	v	Speed (velocity)
EM	Single-phase motor with starting capacitor	WRAS	Water Regulations Advisory Scheme (potable water approval for Great Britain and Northern Ireland)
EMSC	Single-phase motor with integrated starting capacitor	WSK	Thermal winding contacts (in motor for monitoring winding temperature, full motor protection due to additional relay)
GRD/GLRD	Mechanical seal	Y/Δ	Star/delta activation
H	Delivery head	▲	Operating mode of double pumps: Individual operation of the respective duty pump
H <sub>z</sub>	Approval range for sprinkler pumps	▲ + ▲	Operating mode of double pumps: Parallel operation of both pumps
I <sub>A</sub>	Starting current	●	Number of poles of electric motors: 2-pole motor = approx. 2900 1/min at 50 Hz
I <sub>N</sub>	Rated current; current at P <sub>2</sub>	●	Number of poles of electric motors: 4-pole motor = approx. 1450 1/min at 50 Hz
Inst.	Installation: H = horizontal, V = vertical	●	Number of poles of electric motors: 6-pole motor = approx. 950 1/min at 50 Hz
I <sub>w</sub>	Current consumption for power requirement of the shaft P <sub>w</sub>		
KTL coating	Cataphoretic coating: coat with high adhesive strength for long-lasting corrosion protection		
KTW	Approval for products with plastics, for use in potable water applications		
LB	Readiness for delivery (L = stock article, C = available in 2 weeks, K = available in 4 weeks, A = available on request)		
max. Ø	Maximum unit diameter incl. cable		
mmol/l	Millimol per litre; SI unit for the assessment of the water hardness (total hardness or concentration of alkaline earth ions)		
P <sub>1</sub>	Power consumption (power supplied from the mains supply)		
PN	Pressure class in bar (e.g. PN10 = suitable up to 10 bar)		
P <sub>N</sub> = P <sub>2</sub>	Rated motor power		
PT 100	Platinum temperature sensor with a resistance value of 100 Ω at 0 °C		
PTC	Positive temperature coefficient (see also: TRS)		
P <sub>w</sub>	Power requirements of the pump hydraulics		
Q (=V̇)	Volume flow		
Q <sub>z</sub>	Approval range for sprinkler pumps		
RV	Non-return valve		
RVF	Non-return valve, spring-mounted		

# General notes and abbreviations



## Material designations and their meaning

Material	Meaning
1.4021	Chrome steel X20Cr13
1.4057	Chrome steel X17CrNi16-2
1.4112	Chrome steel X 90 Cr Mo V 18
1.4122	Chrome steel X39CrMo17-1
1.4301	Chrome-nickel steel X5CrNi18-10
1.4305	Chrome-nickel steel X8CrNiS18-9
1.4306	Chrome-nickel steel X2CrNi19-11
1.4308	Chrome-nickel steel GX5CrNi19-10
1.4401	Chromium-nickel-molybdenum steel X5CrNiMo17-12-2
1.4408	Chromium-nickel-molybdenum steel GX5CrNiMo19-11-2
1.4462	Chromium-nickel-molybdenum steel X2CrNiMoN22-5-3
1.4470	Chromium-nickel-molybdenum steel GX2CrNiMoN22-5-3
1.4517	Chrome nickel molybdenum steel with copper addition GX2CrNiMoCuN25-6-3-3
1.4541	Chromium-nickel steel with titanium addition X6CrNiTi18-10
1.4542	Chromium-nickel steel with copper and niobium additions X5CrNiCuNb16-4
1.4571	Chrome-nickel steel with titanium addition X6CrNiMoTi17-12-2
1.4581	Chrome-nickel-molybdenum steel with niobium addition GX5CrNiMoNb19-11-2
Ceram	Ceramic coating; coating with very high adhesive strength, protection against corrosion and abrasion
EN-GJL	Cast iron (cast iron with lamellar graphite)
EN-GJS	Cast iron (ductile cast iron, also known as spheroidal cast iron)
G-CuAl10Si	Nickel-aluminium-bronze
G-CuSn10	Zinc-free bronze
GG	see EN-GJL
GGG	see EN-GJS
NiAl-Bz	Nickel-aluminium-bronze
Noryl	Fibreglass reinforced plastic
PC	Polycarbonate
SiC	Silicone carbide
St	Steel
St. vz.	Galvanized steel
V2A (A2)	Material group, e.g. 1.4301, 1.4306
V4A (A4)	Material group, e.g. 1.4404, 1.4571

## Wear and tear

Pumps or pump components are subject to wear and tear in accordance with the best available technology (DIN 31051/DIN-EN 13306). This wear may vary depending on operating parameters (temperature, pressure, speed, water conditions) and the installation/usage situation and may result in the malfunction or failure at different times of the aforementioned products/components, including their electrical/electronic circuitry.

Wearing parts are all components subject to rotary or dynamic strain, including electronic components under tension, in particular:

- Seals (including mechanical seals), seal rings
- Stuffing boxes
- Bearings and shafts
- Impellers and pump components
- Wear rings and counter rings
- Stationary wear rings/wear plates
- Macerators
- Capacitors
- Relays/contactors/switches
- Electronic circuits, semiconductor components, etc.

When pumps and dynamic-type compressors (such as submersible mixers and recirculation pumps) and their components have a coating (cataphoretic coating, 2K or ceram coating), this coating is subject to constant wear from the abrasive components of the medium. Therefore, the coating is also included among the wear parts for these units.

We do not accept liability for faults or defects arising from natural wear and tear.

## WILO – General Terms of Delivery and Service

The latest version of our General Terms of Delivery and Service can be found on the Internet at

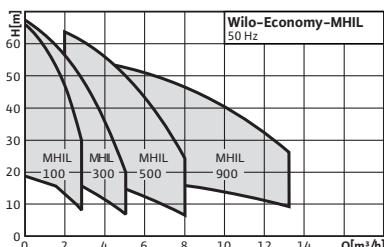
[www.wilo.com](http://www.wilo.com)

# High-pressure multistage centrifugal pumps

## Single pumps

### Series overview Wilo Economy MHIL, Multivert MVIL, Economy MHI

#### Series: Wilo-Economy MHIL

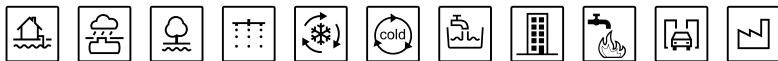


#### >Design

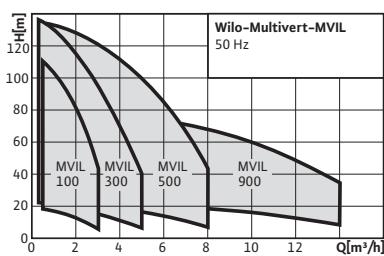
Non-self-priming multistage pump

#### >Application

- Water supply and pressure boosting
- Commerce and industry
- Washing and spraying systems
- Rainwater utilisation
- Cooling and cold water circuits



#### Series: Wilo-Multivert MVIL



#### >Design

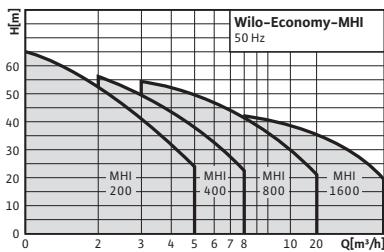
Non-self-priming multistage pump

#### >Application

- Water supply and pressure boosting
- Commerce and industry
- Washing and spraying systems
- Rainwater utilisation
- Cooling and cold water circuits



#### Series: Wilo-Economy MHI



#### >Design

Non-self-priming multistage pump

#### >Application

- Water supply and pressure boosting
- Commerce and industry
- Cooling water circulation systems
- Washing and sprinkling systems



# High-pressure multistage centrifugal pumps



## Single pumps

### Series overview Wilo Economy MHIL, Multivert MVIL, Economy MHI

#### Series: Wilo-Economy MHIL

##### > Special features/product benefits

- Impellers and stage chambers made of stainless steel 1.4301 (AISI 304)
- Pump housing made of cast iron EN-GJL-250, cataphoretically coated
- All relevant components are KTW- and WRAS-certified
- Single-phase current and three-phase current versions

##### > More information

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#### Series: Wilo-Multivert MVIL

##### > Special features/product benefits

- Stainless steel hydraulics 1.4301 (AISI 304)
- Pump housing made of cast iron EN-GJL-250, cataphoretically coated
- All relevant components are KTW- and WRAS-certified
- Single-phase current and three-phase current versions

##### > More information

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#### Series: Wilo-Economy MHI

##### > Special features/product benefits

- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- Compact design
- All relevant components are KTW- and WRAS-certified

##### > More information

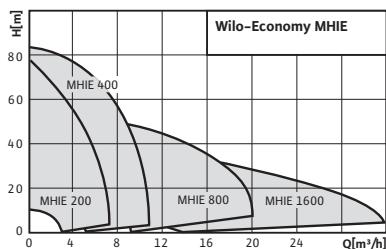
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# High-pressure multistage centrifugal pumps

## Single pumps

### Series overview Wilo Economy MHIE, Helix V, Helix VE

#### Series: Wilo-Economy MHIE

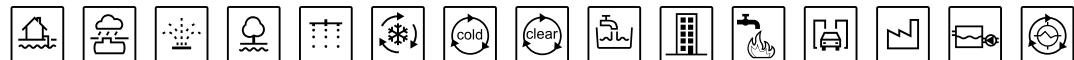


#### >Design

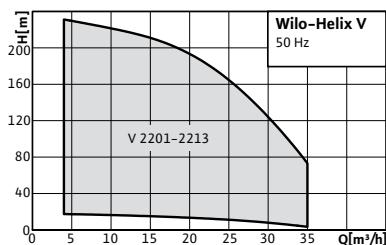
Non-self-priming multistage pump with integrated frequency converter

#### >Application

- Water supply and pressure boosting
- Fire fighting systems
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems



#### Series: Wilo-Helix V



#### >Design

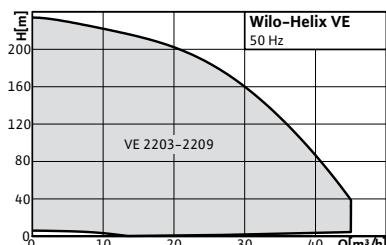
Non-self-priming, high-efficiency multi-stage high-pressure centrifugal pump in vertical design with inline connections

#### >Application

- Water supply and pressure boosting
- Industrial circulation systems
- Process water
- Cooling water circuits
- Fire extinguishing systems
- Washing systems
- Irrigation



#### Series: Wilo-Helix VE



#### >Design

Non-self-priming, high-efficiency vertical version high-pressure multistage centrifugal pump with in-line connections and integrated, air-cooled frequency converter

#### >Application

- Water supply and pressure boosting
- Industrial circulation systems
- Process water
- Cooling water circuits
- Washing systems
- Irrigation



# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series overview Wilo Economy MHIE, Helix V, Helix VE

#### Series: Wilo-Economy MHIE

##### > Special features/product benefits

- Easy commissioning
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- Compact design
- Integrated frequency converter
- Full motor protection
- All relevant components are KTW- and WRAS-certified

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#### Series: Wilo-Helix V

##### > Special features/product benefits

- Efficiency-optimised, laser-welded 2D/3D high-efficiency hydraulics
- IEC standard motor, 3-phase, 2-pole
- Easy pump replacement without pipe modification. Due to the modular pump housing, HELIX pumps can be installed in existing pipes.
- Easy-to-use mechanical seal with cartridge, equipped with a standard seal for easy maintenance.
- The spacer coupling enables the fast and easy replacement of the motor (from 5.5 kW and higher)
- The new flexible lantern design, which is available in two alignments, enables direct access to the mechanical seal.
- Potable water approval according to ACS/KTW/WRAS for all parts that come in contact with the fluid

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#### Series: Wilo-Helix VE

##### > Special features/product benefits

- Efficiency-optimised, laser-welded 2D/3D high-efficiency hydraulics
- Integrated frequency converter with wide control range
- The spacer coupling enables the fast and easy replacement of the motor (from 5.5 kW and higher)
- The new flexible lantern design, which is available in two alignments, enables direct access to the mechanical seal.
- Easy pump replacement without pipe modification. Due to the modular pump housing, HELIX pumps can be installed in existing pipes.
- Easy-to-use mechanical seal with cartridge, equipped with a standard seal for easy maintenance.
- Potable water approval according to ACS/KTW/WRAS for all parts that come in contact with the fluid

##### > More information

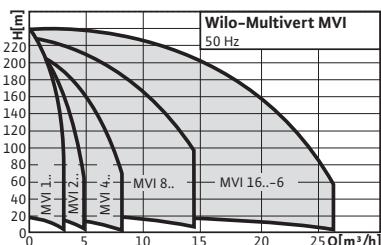
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# High-pressure multistage centrifugal pumps

## Single pumps

### Series overview Wilo Multivert MVI 1, Multivert MVI 16, Multivert MVIE

#### Series: Wilo-Multivert MVI 1/2/4/8/16..-6



#### >Design

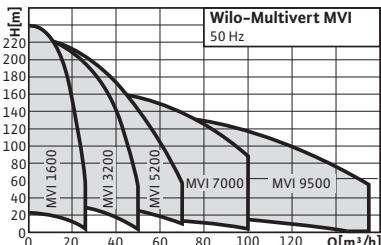
Non-self-priming multistage pump

#### >Application

- Water supply and pressure boosting
- Fire extinguishing systems
- Boiler feed
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems



#### Series: Wilo-Multivert MVI 16/32/52/70/95



#### >Design

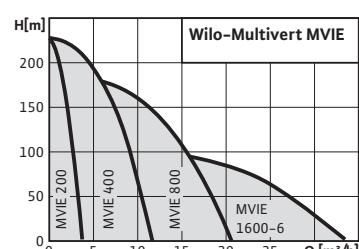
Non-self-priming multistage pump

#### >Application

- Water supply and pressure boosting
- Fire extinguishing systems
- Boiler feed
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems



#### Series: Wilo-Multivert MVIE



#### >Design

Non-self-priming multistage pump with integrated frequency converter

#### >Application

- Water supply and pressure boosting
- Fire extinguishing systems
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems



# High-pressure multistage centrifugal pumps



## Single pumps

### Series overview Wilo Multivert MVI 1, Multivert MVI 16, Multivert MVIE

#### Series: Wilo-Multivert MVI 1/2/4/8/16..-6

##### > Special features/product benefits

- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- All relevant components are KTW- and WRAS-certified
- Drive via IEC standard motors

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#### Series: Wilo-Multivert MVI 16/32/52/70/95

##### > Special features/product benefits

- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316L); pump base EN-GJL-250, with cataphoretic coating
- All relevant components are KTW- and WRAS-certified
- Drive via IEC standard motors

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#### Series: Wilo-Multivert MVIE

##### > Special features/product benefits

- Easy commissioning
- Integrated frequency converter
- Full motor protection
- Wide control range
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- All relevant components are KTW- and WRAS-certified

##### > More information

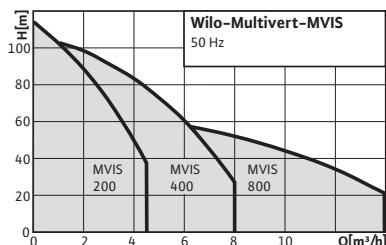
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# High-pressure multistage centrifugal pumps

## Single pumps

### Series overview Wilo Multivert MVIS, Multivert MVISE, accessories

#### Series: Wilo-Multivert MVIS



#### >Design

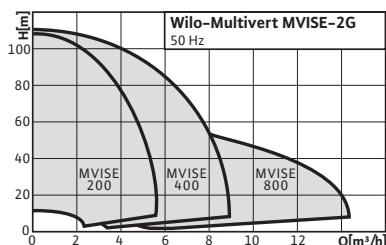
Non-self-priming multistage pump with glandless pump motor

#### >Application

- Water supply and pressure boosting systems



#### Series: Wilo-Multivert MVISE



#### >Design

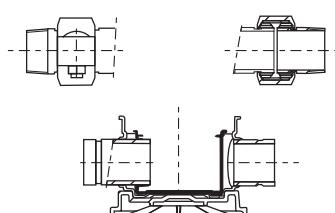
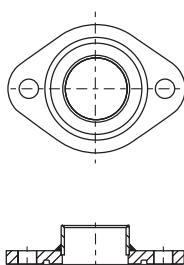
Non-self-priming multistage pump with glandless pump motor and integrated frequency converter

#### >Application

- Water supply and pressure boosting



#### Accessories



#### >Counter flange

#### >Victaulic coupling

#### >etc.

# High-pressure multistage centrifugal pumps



## Single pumps

### Series overview Wilo Multivert MVIS, Multivert MVISE, accessories

#### Series: Wilo-Multivert MVIS

##### > Special features/product benefits

- Low-noise (up to 20 dB [A] quieter than conventional pumps)
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304)
- Glandless pump technology
- All relevant components are KTW- and WRAS-certified

##### > More information

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#### Series: Wilo-Multivert MVISE

##### > Special features/product benefits

- Easy commissioning
- Glandless pump technology
- Low-noise (up to 20 dB [A] quieter than conventional pumps)
- Integrated frequency converter
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304)
- All relevant components are KTW- and WRAS-certified

##### > More information

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# High-pressure multistage centrifugal pumps

## Single pumps

	Wilo-Economy MHIL	Wilo-Multivert MVIL	Wilo-Economy MHI	Wilo-Economy MHIE	Wilo-Helix V	Wilo-Helix VE
<b>Hydraulics</b>						
Design	Monobloc	Inline	Monobloc	Monobloc	Inline	Inline
Pump type	Glanded pump	Glanded pump	Glanded pump	Glanded pump	Glanded pump	Glanded pump
Self-venting during operation	–	–	–	–	–	–
Mechanical seal independent of direction of rotation	•	•	•	•	•	•
Impellers, stage chambers	1.4301	1.4301	1.4301	1.4301	1.4307	1.4307
Combination hydraulics – pump base	1.4301 – EN-GJL-250	1.4301 – EN-GJL-250	1.4301	1.4301	1.4307/1.4404 – EN-GJL-250	1.4307/1.4404 – EN-GJL-250
Threaded connection	•	–	•	•	–	–
Oval flange	–	•	–	–	–	–
Round flange	–	•	–	–	–	–
Loose flange (round)	–	–	–	–	•	•
Vicatulic quick coupling	–	–	–	–	–	–
<b>Motor</b>						
Three-phase standard motor	–	–	–	–	•	•
Single-phase motor	•	•	•	•	–	–
Three-phase motor	•	•	•	•	•	•
Integrated frequency converter for 3-motors	–	–	–	• (controllable from 26 to 60 Hz)	–	• (controllable from 26 to 60 Hz)
Integrated frequency converter for 1~ motors (manual speed control in conjunction with control by external signal 0...10 V / 4...20 mA M1/M3 or automatic mode p = const. M2)	–	–	–	•	–	–
Thermal motor protection switch (only 1~motors)	• (only 1~motors)	• (only 1~motors)	• (only 1~motors)	•	–	•
Protection against low water level	–	–	–	–	–	•
4-pole (n=1450 rpm)	–	–	–	–	–	–
<b>Equipment/scope of delivery</b>						
Oval counter flanges Rp 1 to Rp 1 <sup>1/2</sup>	–	•	–	–	–	–
Including installation and operating instructions	•	•	•	•	•	•
<b>Options</b>						
Hydraulics (optional)	–	–	1.4404 (only MHI 2.. to MHI 8..)	1.4404 (only MHIE 2.. to MHIE 8..)	–	–
Combination hydraulics – pump base (optional)	–	–	1.4404 (only MHI 2.. to MHI 8..)	1.4404 (only MHIE 2.. to MHIE 8..)	–	–
Other mechanical seals	•	•	•	•	•	•
Other sealing materials	•	•	•	–	•	•
Other standard motors	–	–	–	–	•	–

• = available, – = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Equipment/Function

	Wilo-Multi-vert MVI 1/2/ 4/8/16..-6	Wilo-Multi-vert MVI 16/ 32/52/70/95	Wilo-Multi-vert MVIE	Wilo-Multi-vert MVIE	Wilo-Multi-vert MVIS	Wilo-Multi-vert MVISE
<b>Hydraulics</b>						
Design	Inline	Inline	Inline	Inline	Inline	Inline
Pump type	Glanded pump	Glanded pump	Glanded pump	Glanded pump	Glandless pump	Glandless pump
Self-venting during operation						•
Mechanical seal independent of direction of rotation	•	•	•	•		
Impellers, stage chambers	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301
Combination hydraulics – pump base	1.4301	1.4301 – EN-GJL-250	1.4301	1.4301 – EN-GJL-250	1.4301	1.4301
Threaded connection	–	–	–	–	–	–
Oval flange	•	–	•	–	•	•
Round flange	•	•	•	•	–	–
Loose flange (round)						
Victaulic quick coupling	•	–	•	–	–	•
<b>Motor</b>						
Three-phase standard motor	•	•				
Single-phase motor	•	–	•	–	–	–
Three-phase motor	•	•	•	•	•	•
Integrated frequency converter for 3~motors			• (controllable from 26 to 60 Hz)	• (16, 32, 52 controllable from 26 to 60 Hz, 70, 95 controllable from 26 to 50 Hz)		• (water-cooled, adapted, can be controlled infinitely var- iable from 20 to 50 Hz)
Integrated frequency converter for 1~ motors (manual speed control in conjunction with control by external signal 0...10 V / 4...20 mA M1/M3 or automatic mode p = const. M2)			•	–		•
Thermal motor protection switch	• optional (up to and including $P_2=1.5 \text{ kW}$ )	–	•	•	–	–
Protection against low water level			•	•		•
4-pole ( $n=1450 \text{ rpm}$ )	optional	optional				
<b>Equipment/scope of delivery</b>						
Oval counter flanges Rp 1 to Rp $1\frac{1}{2}$	•		•		•	•
Including installation and operating instructions	•	•	•	•	•	•

• = available, – = not available

# High-pressure multistage centrifugal pumps

## Single pumps

Equipment/Function						
	Wilo-Multi-vert MVI 1/2/ 4/8/16..-6	Wilo-Multi-vert MVI 16/ 32/52/70/95	Wilo-Multi-vert MVIE	Wilo-Multi-vert MVIE	Wilo-Multi-vert MVIS	Wilo-Multi-vert MVISE
<b>Options</b>						
Hydraulics (optional)	1.4404 (only MVI 2.. to MVI 8..)	1.4404	1.4404 (only MVIE 2.. to MVIE 8..)	1.4404		
Combination hydraulics – pump base (optional)	1.4404 – 1.4408 (only MVI 2.. to MVI 8..)	1.4404 – 1.4408 (only MVI 16.. to MVI 52..)	1.4404 – 1.4408 (only MVIE 2.. to MVIE 8..)	1.4404 – 1.4408 (only MVI 16.. to MVI 52..)	–	–
Other mechanical seals	•	•	•	•	–	–
Other sealing materials	•	•	•	•		
Other standard motors	•	•	EFF1	EFF1		

• = available, – = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Planning guide

#### Resistance list for pumps of the Wilo-Multivert MVI/MVIE series 2.. to 16-6 and Wilo-Economy MHI/MHIE – series 2.. to 16..

This list makes no claim to completeness. The specifications concerning the application options of various pumping materials for pumping the fluids listed have been compiled to the best of our knowledge. They should however not be regarded as anything other than non-binding guidelines. **No guarantee claims whatsoever are to be derived therefrom.**

In practice, the fluids listed here are very rarely pumped as substances in pure form. Even minor admixtures of other substances could significantly influence or alter the chemically aggressive characteristics of a basic substance. Incrustations, the formation of condensate and temperature increases also generally have negative effects. In many cases, practical experience is required before a conclusion can be reached as to whether or not the suitability of a particular material is sufficient.

The information given refers to mean values of experience. In individual cases where the results of water analyses are available, other application limits are possible. Acidic pH values, coatings, H<sub>2</sub>S, sulphides, chlorine gas, chloride, ClO<sub>2</sub>, chlorates, thiosulphates and SO<sub>2</sub> have a weakening effect on the materials. Sulphates, oxygen in solu-

tion, trisodium phosphate, nitrate, nitrite, alkaline pH value and CO<sub>2</sub> saturation (acidic) generally have a protective effect on the materials.

Limited application limits apply to industrial water with pure chloride salts without additional protective salt contents; in case of doubt, please consult Wilo. For additives for aqueous solutions e.g. corrosion protection additives or biocides, the resistance to water must be taken into account.

#### Attention:

Viton in combination with water is only resistant up to max. 90 °C.

We request that the key and/or the remarks are taken into account when using the resistance list.

If you have any questions concerning the resistance of the Wilo-Multivert MVI/MVIE 16../32../52../70../95.. series, please contact your sales and service office.

#### Remarks:

The properties of the fluid, such as density, solidification points, viscosity, etc. and/or explosion-protection regulations are to be taken into account additionally and separately in conjunction with this resistance list.

The application limits of the pumps in terms of pressure and temperature are to be taken into account.

#### Resistance list

	%	Temp. °C max.	1.4301 (AISI 304)		1.4404 (AISI 316 L)	
Fluid			EPDM	Viton	EPDM	Viton
Alkaline cleaner	–	–	•	–	•	–
Alcohol, see ethanol	–	–	•	–	•	–
Aluminium sulphate	10 %	25° <sup>1)</sup>	–	–	–	•
Ammonia water (ammonium hydroxide)	100 %	80°	•	–	•	–
Ammonium chloride (salmiac)	15 %	60° <sup>1)</sup>	–	–	•	–
Ammonium hydrogen carbonate	10 %	40° <sup>1)</sup>	•	–	•	–
Ammonium sulphate	20 %	50° <sup>1)</sup>	–	–	•	–
Antifrogen (HC basis)	40 %	70° <sup>1)</sup>	•	•	•	•
Cider	–	60°	–	–	–	–
Petrol (explosion protection required)	–	25°	–	•	–	•
Benzoic acid	10 %	100°	–	–	–	•
Boric acid	Unsaturated solution	60° <sup>1)</sup>	–	–	–	•
Brandy	< 40 alc.	60°	•	–	•	–
Butanol	–	60°	•	–	•	–
Buttermilk	–	–	–	–	–	–

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps

## Single pumps

### Planning guide

Resistance list		%	Temp. °C max.	1.4301 (AISI 304)		1.4404 (AISI 316 L)	
Fluid				EPDM	Viton	EPDM	Viton
Calcium acetate	Unsaturated solution	100° <sup>1)</sup>	–	–	•	–	–
Calcium hydroxide	1 %	80°	–	–	–	•	–
Calcium nitrate	10	30° <sup>1)</sup>	•	–	•	–	–
Deionic (fully desalinated water)	–	50°	–	–	•	–	–
Iron phosphate	–	–	–	–	–	–	–
Iron-II-sulphate	–	–	–	–	–	–	–
Iron-III-sulphate	–	–	–	–	–	–	–
Vinegar (wine vinegar)	10 %	60°	–	–	•	–	–
Acetic acid anhydride	–	25°	–	–	•	–	–
Ethanol (acetanhol, alcohol) (explosion protection required)	–	60°	•	–	•	–	–
Ethylene glycol/diethylene glycol	40 %	70° <sup>2)</sup>	•	•	•	•	•
Fixing bath	–	25°	–	–	–	–	•
Fruit juice	–	60°	–	–	–	–	•
Tannic acid	Unsaturated solution	Boiling point <sup>1)</sup>	–	–	•	–	–
Glycerine	–	–	•	–	•	–	–
Glycol	–	–	–	–	–	–	–
Glycol-water	40 %	70° <sup>2)</sup>	•	•	•	•	•
Uric acid	–	–	–	–	•	–	–
Hexane	–	40°	–	•	–	–	•
Isopropanol (explosion protection required) <sup>3)</sup>	–	–	•	–	•	–	–
Potassium carbonate	Unsaturated solution	100° <sup>1)</sup>	•	–	•	–	–
Potassium hydrogen carbonate	10 %	60° <sup>1)</sup>	•	–	•	–	–
Potassium hydroxide	10 %	60°	•	–	•	–	–
Potassium nitrate	–	–	–	–	–	–	–
Potassium permanganate	Unsaturated solution	80° <sup>1)</sup>	–	–	•	–	–
Potassium sulphate	Unsaturated solution	60° <sup>1)</sup>	–	–	•	–	–
Milk of lime (calcium hydroxide)	10 %	80°	–	–	–	–	•

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps



## Single pumps

### Planning guide

Resistance list		%	Temp. °C max.	1.4301 (AISI 304)		1.4404 (AISI 316 L)	
Fluid				EPDM	Viton	EPDM	Viton
Kerosene (explosion protection required) <sup>3)</sup>	–	–	25°	–	•	–	•
Copper sulphate	Unsaturated solution	–	60° <sup>1)</sup>	–	–	–	•
Cooling lubricant <sup>4)</sup>			80°	–	•	–	•
Liquor	–	–	60°	–	–	–	•
Magnesium sulphate	Unsaturated solution	–	< boiling temp. <sup>1)</sup>	–	–	–	–
Maleic acid			60° <sup>1)</sup>	–	–	–	•
Methanol (explosion protection required) <sup>3)</sup>	–	–	60°	•	–	•	–
Methyl alcohol: Methanol (explosion protection required) <sup>3)</sup>	–	–	60°	•	–	•	–
Lactic acid	Unsaturated solution	–	25° <sup>1)</sup>	–	–	–	•
Miscella			60°	–	•	–	•
Sodium carbonate	10 %	–	60° <sup>1)</sup>	•	–	•	–
Sodium hydroxide	25 %	–	20°	•	–	•	–
Sodium hydroxide	10 %	–	80°	•	–	•	–
Sodium nitrate	Unsaturated solution	–	80° <sup>1)</sup>	•	–	•	–
Sodium phosphate			110° <sup>1)</sup>	•	–	•	–
Sodium sulphate	–	–	–	–	–	–	–
Caustic lye of soda, see sodium hydroxide	–	–	–	–	–	–	–
Fruit pulp (containing SO <sub>2</sub> )	–	–	Boiling temp.	–	–	–	•
Oils:	–	–	–	–	–	–	–
– Diesel oil (light, extra light) (explosion protection required) <sup>3)</sup>	–	–	80°	–	•	–	•
– Crude oil (purified, without water)	–	–	80°	–	•	–	•
– Peanut oil	–	–	–	–	•	–	•
– Heating oil (light) (explosion protection required) <sup>3)</sup>	–	–	–	–	•	–	•
– Heating oil (explosion protection required) <sup>3)</sup>	–	–	120°	–	•	–	•
– Hydraulic oil	–	–	–	–	•	–	•

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps

## Single pumps

### Planning guide

Resistance list		%	Temp. °C max.	1.4301 (AISI 304)		1.4404 (AISI 316 L)	
Fluid				EPDM	Viton	EPDM	Viton
– Linseed oil	–		60°	–	•	–	•
– Linseed oil + 3 % H <sub>2</sub> SO <sub>4</sub>	–		60°	–	–	–	•
– Maize oil	–		100°	–	•	–	•
– Mineral oil	–		80°	–	•	–	•
– Rapeseed oil	–		100°	–	•	–	•
– Caster oil	–		100°	–	•	–	•
– Lubricating oil	–		–	–	•	–	•
– Cutting oil <sup>4)</sup>	–		–	–	•	–	•
– Silicon oil	–		100°	–	•	–	•
– Soya bean oil	–		100°	–	•	–	•
– Cooking oil	–		100°	–	•	–	•
– Turpentine oil (explosion protection required) <sup>3)</sup>	–		60°	–	•	–	•
– Turbine oil (no SDF oils)	–		100°	–	•	–	•
Oil-water mixtures	10		250°	–	•	–	•
Oxalic acid	–		–	–	–	–	–
Paraffin(s)	–		–	–	•	–	•
Paraffin (explosion protection required) <sup>3)</sup>	–		–	–	•	–	•
Phosphoric acid	10 %		85°	–	–	–	•
Polyglycols	–		90° <sup>2)</sup>	–	•	–	•
Polyethylene glycols	40 %		70° <sup>2)</sup>	•	•	•	–
2-propanol			60°	•	–	•	–
Pulp, see fruit pulp							
Salicylic acid	Unsaturated solution		25° <sup>1)</sup>	–	–	•	–
Aqueous ammonia (ammonium hydroxide)	100 %		80°	•	–	•	–
Sulphuric acid	5 %		25°	–	–	–	•
Sulphuric acid	2.50 %		60°	–	–	–	•
Sulphurous acid (saturated)	–		20° <sup>1)</sup>	–	–	–	•
Safety coolant (e.g. Freon, difluorodichloromethane and others, anhydrous)	–		–	–	–	–	–

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps



## Single pumps

### Planning guide

Resistance list		%	Temp. °C max.	1.4301 (AISI 304)		1.4404 (AISI 316 L)	
Fluid				EPDM	Viton	EPDM	Viton
Trisodium phosphate	10 %	Boiling temp. <sup>1)</sup>	•	–	•	–	
Toluene	–	–	–	–	–	–	–
Alk. washing liquid (bottle rinsing)	10 %	80°	•	–	•	–	
Alk. washing liquid (metal degreasing)	10 %	80°	–	•	–	–	•
Water							
– Swimming-pool water (no brine)	–	35°	•	–	•	–	
– Deionic (fully desalinated water)	–	50°	–	–	•	–	
– Distilled water	–	50°	–	–	•	–	
– Decarbonated water	–	–	–	–	•	–	
– Softened water	–	–	–	–	•	–	
– Firefighting water	–	–	•	–	•	–	
– Heating water	–	–	•	–	•	–	
– Boiler water (dH < 11.5)	–	–	•	–	•	–	
– Boiler feed water, completely desalinated	–	–	–	–	•	–	
– Condensate (pH < 4.5)	–	–	–	–	•	–	
– Tap water	–	–	•	–	•	–	
– Pure water	–	–	•	–	•	–	
– Ultrapure water (electronics, etc.)	–	–	–	–	•	–	
– Feed water see boiler water and boiler feed water							
– Rinsing water	–	–	•	–	•	–	
– Partially desalinated water, see decarbonated water							
– Fully desalinated water, see deionic							
– Soft water see decarbonated water							
Other waters:							
– Boiler feed water, partially desalinated	–	–	•	–	•	–	
– Cooling water	–	–	•	–	•	–	
– Untreated water (suspended solids < 10 ppm)	–	–	•	–	•	–	
– Potable water	–	–	•	–	•	–	

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps

## Single pumps

### Planning guide

Resistance list		%	Temp. °C max.	1.4301 (AISI 304)	1.4404 (AISI 316 L)	EPDM	Viton
Fluid				EPDM	Viton	EPDM	Viton
Wine (white, red)	–	–	–	–	–	•	–
Tartaric acid	Unsaturated solution	60° <sup>1)</sup>	–	–	–	–	•
Citric acid	5 %	25° <sup>1)</sup>	–	–	–	•	–
Sugar juice (solution) susp. s < 20 ppm	–	–	–	–	–	•	–

• = resistant, – = not resistant

<sup>1)</sup> The temperature must not fall below the crystallisation temperature during operation and during starting

<sup>2)</sup> Special GRD

<sup>3)</sup> Explosion protection by the system operator required according to legal regulations, e.g. TRbF 50, section 6.3

<sup>4)</sup> For copper processing, please consult Wilo

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series description Wilo-Economy MHIL



#### Design

Non-self-priming multistage pump

#### Application

- Water supply and pressure boosting
- Commerce and industry
- Washing and spraying systems
- Rainwater utilisation
- Cooling and cold water circuits

#### Type key

Example: **MHIL 302/E-1-230-50-2**

**MHIL** Multistage horizontal high-pressure centrifugal pump  
**3** Volume flow in m<sup>3</sup>/h  
**02** Number of impellers  
**E** Seal type  
E = EPDM  
V = Viton  
**1** 1 = 1~ (single-phase current)  
3 = 3~ (three-phase current)  
**230** Connection voltage in V  
**50** Frequency in Hz  
**2** Number of poles

#### Special features/product benefits

- Impellers and stage chambers made of stainless steel 1.4301 (AISI 304)
- Pump housing made of cast iron EN-GJL-250, cataphoretically coated
- All relevant components are KTW- and WRAS-certified
- Single-phase current and three-phase current versions

#### Equipment/function

- Pump in monobloc design
- Threaded connection
- Single-phase or three-phase motor
- Single-phase motor with integrated thermal motor protection

#### Technical data

- Mains connection 1~230 V / 50 Hz or optionally 220 V / 60 Hz
- Mains connection 3~230V / 50 Hz ( $\Delta$ ) or optionally 220 V / 60 Hz ( $\Delta$ ), 400 V / 50 Hz ( $Y$ ) or optionally 380 V / 60 Hz ( $Y$ )
- Fluid temperature -15 to +90 °C

- Max. operating pressure 10 bar

- Max. inlet pressure 6 bar
- Protection class IP 54
- Nominal diameters of pipe connections on pressure side Rp 1 or Rp 1 ¼, depending on type
- Nominal diameters of pipe connections on suction side Rp 1, Rp 1 ¼ or Rp 1 ½, depending on type

#### Materials

- Impellers stainless steel 1.4301
- Stage chambers stainless steel 1.4301
- Shaft stainless steel 1.4028
- Seal EPDM
- Housing cover EN-GJL-250 (cataphoretic coating)
- Lower housing section EN-GJL-250 (cataphoretic coating)
- Mechanical seal SiC/carbon
- Bearing tungsten carbide
- Pump base EN-GJL-250 (cataphoretic coating)

#### Scope of delivery

- Pump
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Economy MHIL

Wilo-Economy MHIL 1/3/9

#### Materials

Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	•
Parts in contact with fluid in 1.4301 (AISI 304)	—
Parts in contact with fluid in 1.4404 (AISI 316L)	—

#### Seal version

Seal	EPDM
------	------

#### Hydraulic connection

Threaded connection	•
Oval flange	—
Round flange	—
Victaulic quick coupling	—

#### Motor version

Individual motors	—
1~230 V, 50 Hz	• (up to $P_2 = 1.5 \text{ kW}$ )
3~230 V, 50 Hz	—
3~400 V, 50 Hz	•
3~500 V, 50 Hz	—
1~110 V, 60 Hz	—
1~220 V, 60 Hz	optional
3~380 V, 60 Hz	optional
3~400 V, 60 Hz	—
3~440 V, 60 Hz	—
3~460 V, 60 Hz	optional
3~480 V, 60 Hz	optional
3~380 V to 440 V and 50 Hz to 60 Hz	—
Protection class	IP 54
Explosion protection	—
Motors with PTC thermistors	optional
Motors with UL certificates	—
Motors with CSA certificates	—
Thermal motor protection switch	• (only 1~motors)
Speed can be controlled via external FC	—
Integrated frequency converter	—
Painting	•
Individual painting	•

# High-pressure multistage centrifugal pumps



Single pumps

## Overview of versions Wilo-Economy MHIL

### Wilo-Economy MHIL 1/3/5/9

#### Mechanical seal

Tungsten carbide/carbon	optional
SIC/carbon	•
Tungsten carbide/tungsten carbide	optional
SIC/SIC	optional

#### Potable water approvals

KTW	•
WRAS	•

• = available, – = not available

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Economy MHIL

	Wilo-Economy MHIL ...			
	1..	3..	5..	9..
<b>Approved fluids</b>				
Potable water, heating water, process water	•	•	•	•
Condensate	-	-	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•
<b>Power</b>				
Max. volume flow [m <sup>3</sup> /h]	3.0	5.0	8.0	13.0
Max. delivery head [m]	66	67	68	58
Fluid temperature	-15 °C ... 90 °C	-15 °C ... 90 °C	-15 °C ... 90 °C	-15 °C ... 90 °C
Max. ambient temperature	40	40	40	40
Operating pressure	10	10	10	10
Inlet pressure	6	6	6	6
Nominal speed	2900	2900	2900	2900
<b>Motor</b>				
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz			
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ or 220 V, 60 Hz Δ 400 V, 50 Hz Y or 380 V, 60 Hz Y			
Insulation class	F	F	F	F
Radio shielding degree	-	-	-	-
Protection class	IP 54	IP 54	IP 54	IP 54
<b>Connections</b>				
Nominal diameter of pipe connections on suction side	1	1	1½	1½
Nominal diameter of pipe connections on pressure side	1	1	1	1¼
Flange connections PN 16/PN 25	-	-	-	-
Vicatualic connections	-	-	-	-
<b>Materials</b>				
Impeller (standard)	1.4301			
Stage chambers	1.4301			
Pump housing	EN-GJL-250 (cataphoretically coated)			
Pump shaft	1.4028			
Seal	EPDM			
Housing cover	EN-GJL-250 (cataphoretically coated)			
Lower housing section	EN-GJL-250 (cataphoretically coated)			

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo-Economy MHIL

	Wilo-Economy MHIL ...			
	1..	3..	5..	9..
Mechanical seal		SiC/carbon		
Pressure shroud		–		
Bearing		Tungsten carbide		
Pump base		EN-GJL-250 (cataphoretically coated)		
Pump base (in contact with the fluid)		–		

• = available, – = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

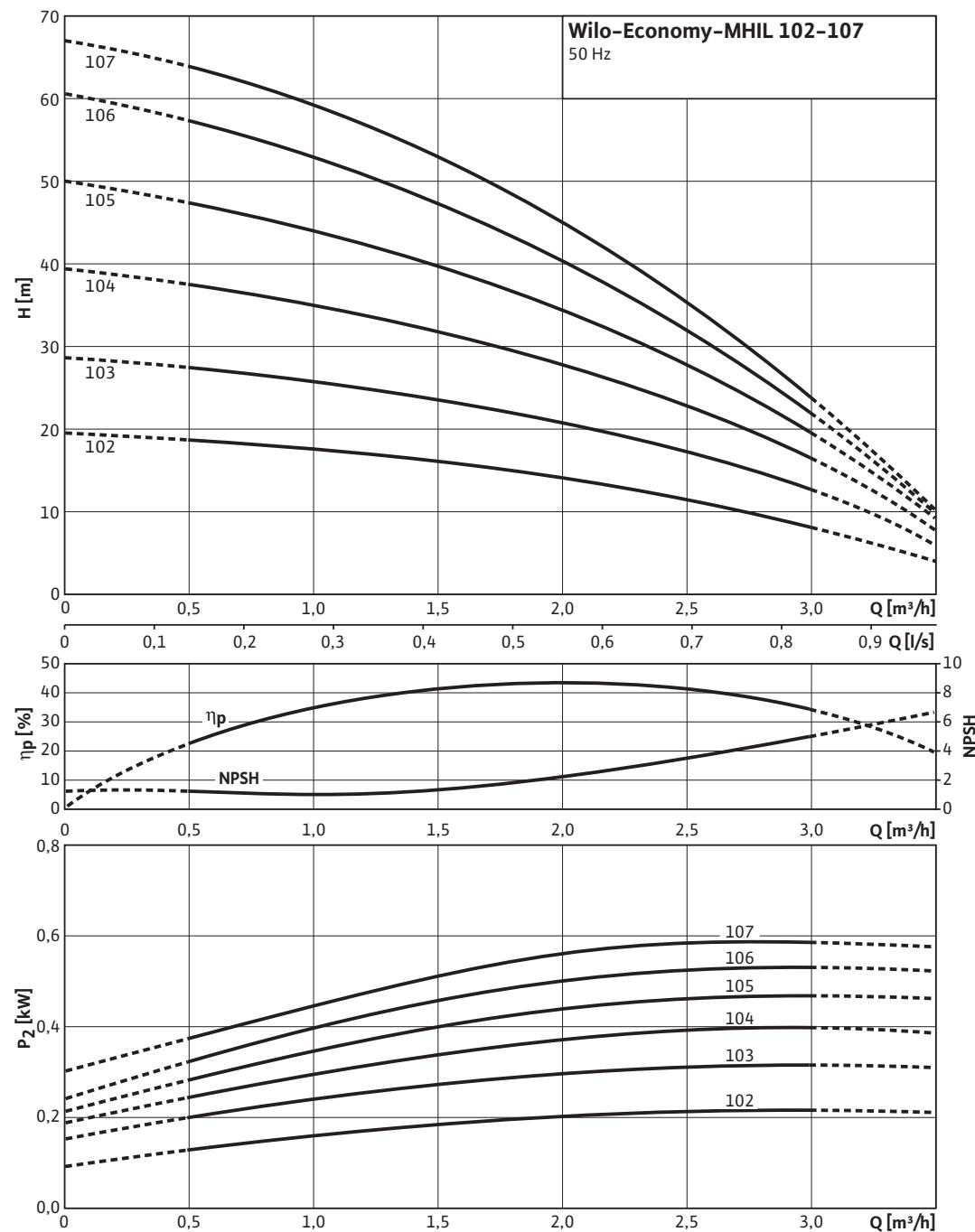
# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHIL

Wilo-Economy MHIL 102 – 107

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

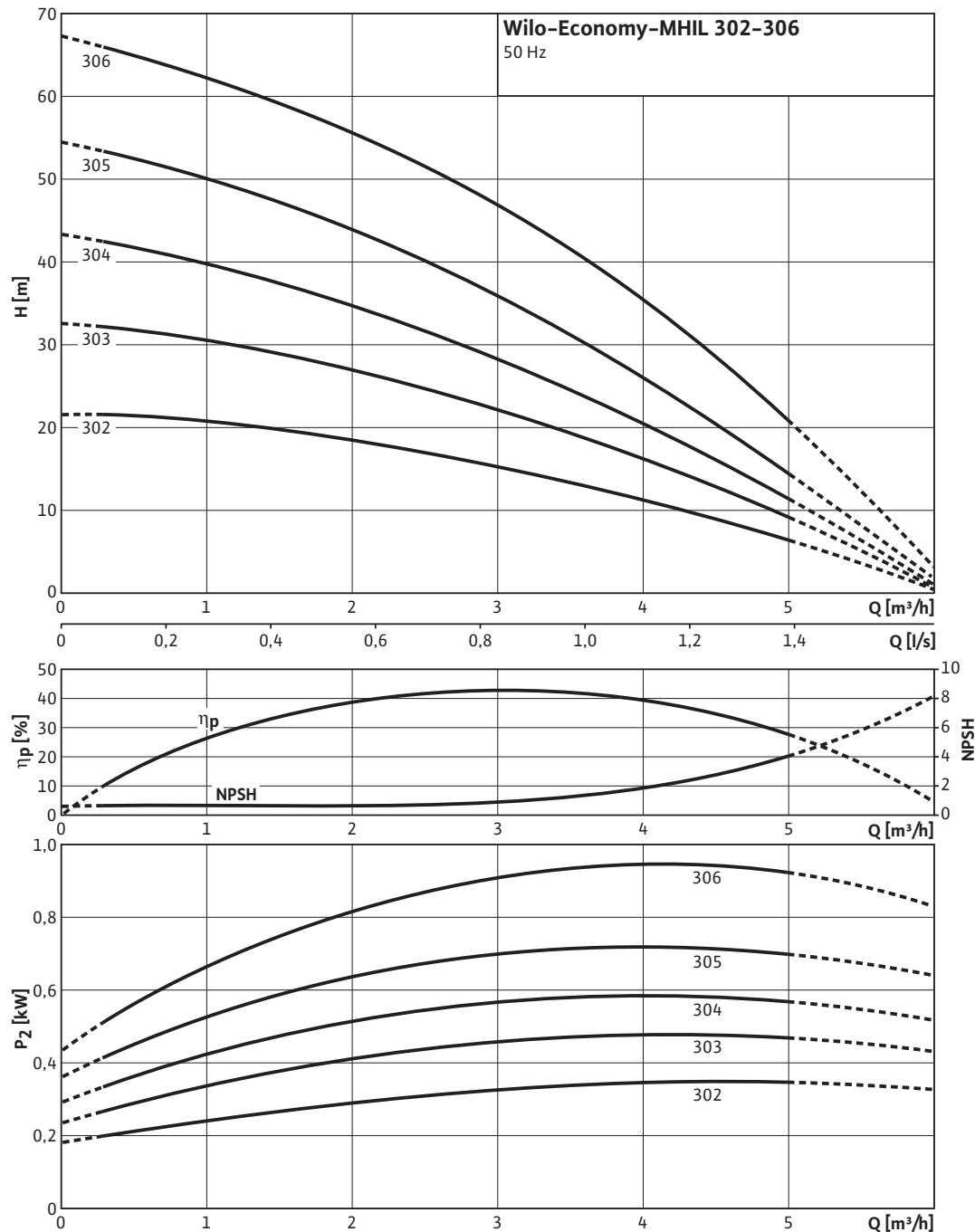
**WILO**

Single pumps

## Pump curves Wilo-Economy MHIL

### Wilo-Economy MHIL 302 – 306

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

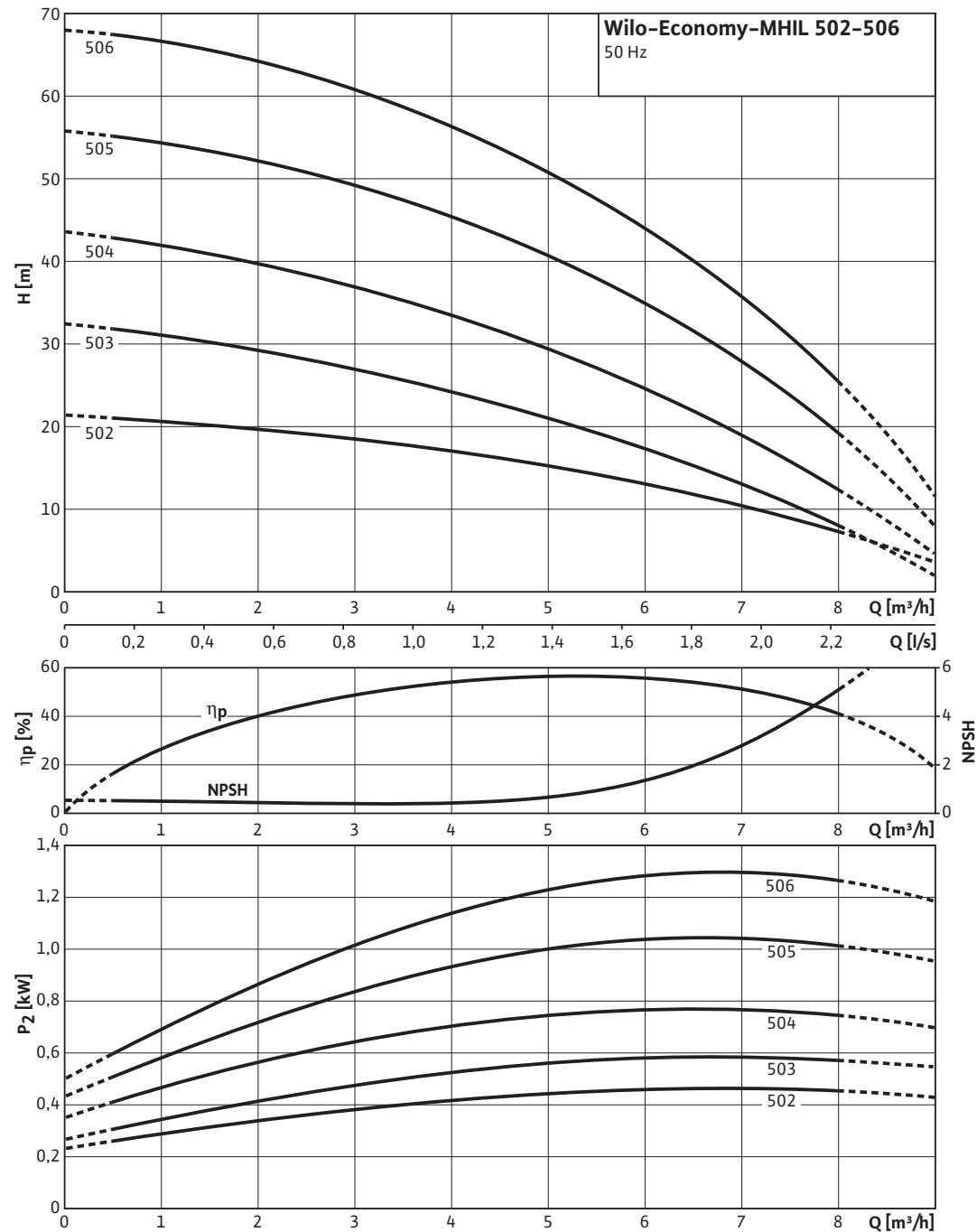
# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHIL

Wilo-Economy MHIL 502 – 506

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

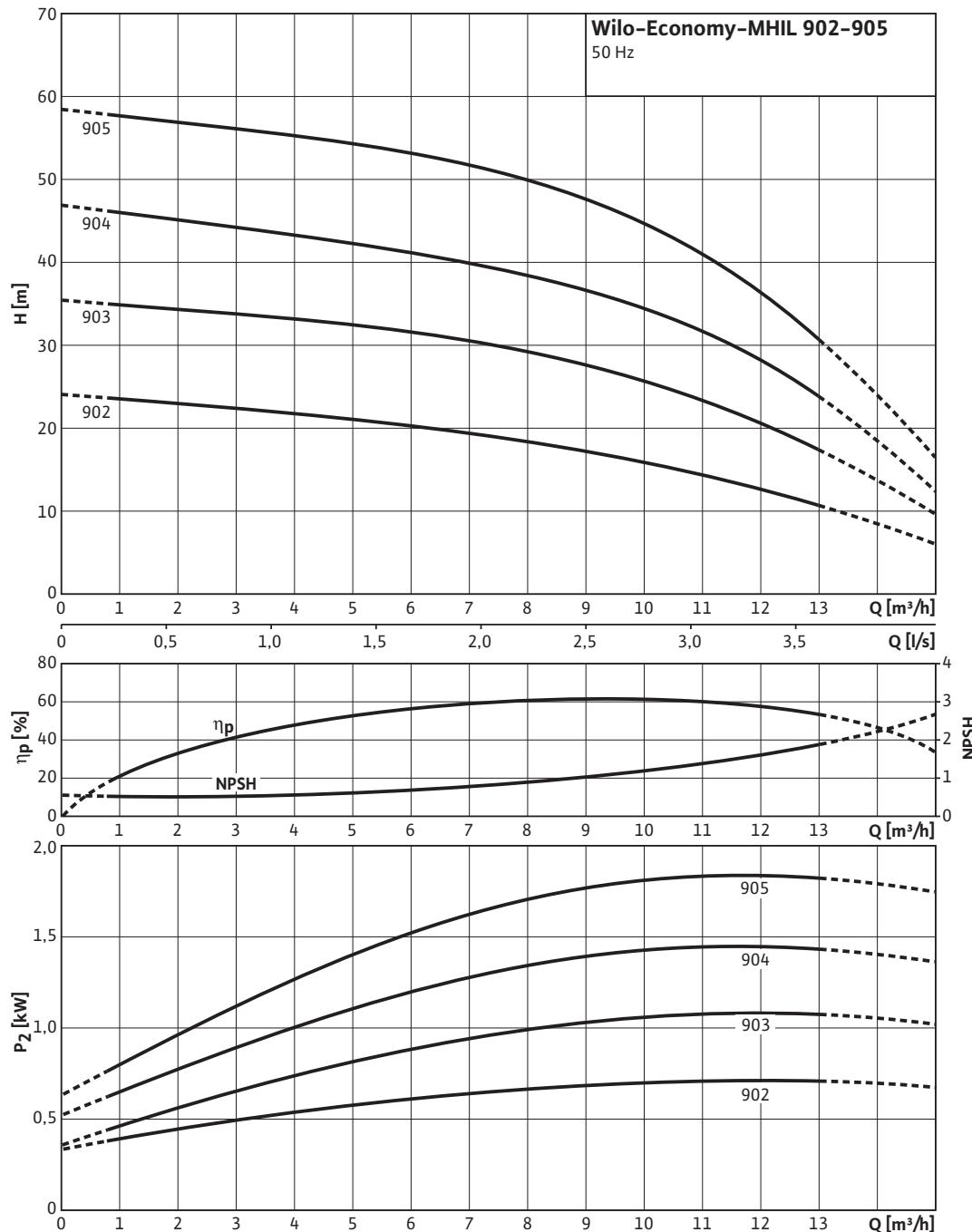
**WILO**

Single pumps

## Pump curves Wilo-Economy MHIL

### Wilo-Economy MHIL 902 – 905

2-pole/50 Hz



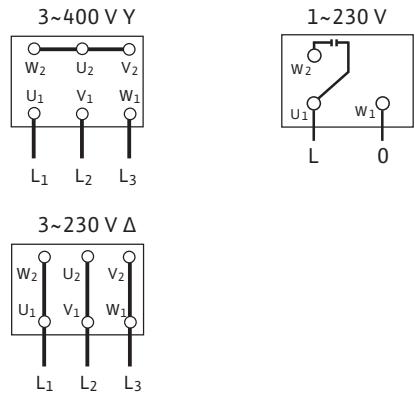
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Economy MHIL

#### Terminal diagram



#### Motor data

Wilo Economy...	Nominal motor power P <sub>2</sub> [kW]	Nominal current	
		1~230V, 50 Hz	3~230V/3~400V, 50 Hz
		I <sub>N</sub>	[A]
MHIL 102	0.55	4.00	3.00 / 1.70
MHIL 103	0.55	4.00	3.00 / 1.70
MHIL 104	0.55	4.00	3.00 / 1.70
MHIL 105	0.55	4.00	3.00 / 1.70
MHIL 106	0.55	4.00	3.00 / 1.70
MHIL 107	0.55	4.00	3.00 / 1.70
MHIL 303	0.55	4.00	3.00 / 1.70
MHIL 304	0.55	4.00	3.00 / 1.70
MHIL 305	0.75	5.10	3.60 / 2.10
MHIL 306	1.10	7.20	5.30 / 3.10
MHIL 302	0.55	4.00	3.00 / 1.70
MHIL 502	0.55	4.00	3.00 / 1.70
MHIL 503	0.55	4.00	3.00 / 1.70
MHIL 504	0.75	5.10	3.60 / 2.10
MHIL 505	1.10	7.20	5.30 / 3.10
MHIL 506	1.50	9.20	6.60 / 3.80
MHIL 902	0.75	5.10	3.60 / 2.10
MHIL 903	1.10	7.20	5.30 / 3.10
MHIL 904	1.50	9.20	6.60 / 3.80
MHIL 905	1.85	—	8.55 / 4.95

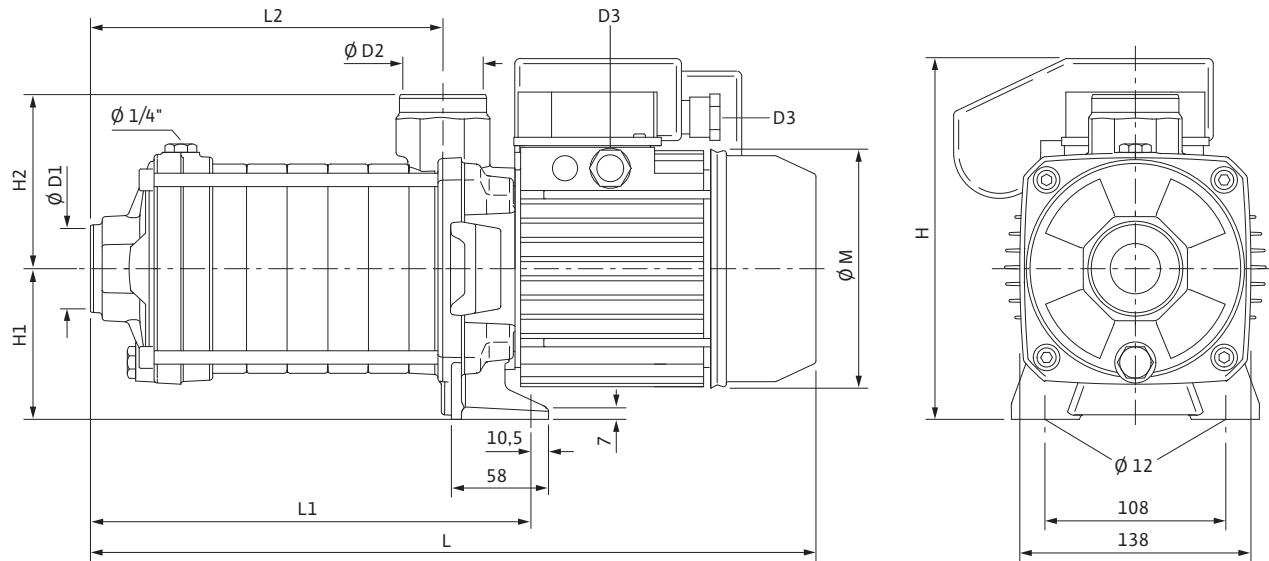
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Dimensions, weights Wilo-Economy MHIL

### Dimension drawing



### Dimensions, weights

Wilo Economy...	Dimensions													Weight approx.			
							1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V			
	Ø D <sub>1</sub>	Ø D <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	I <sub>1</sub>	I <sub>2</sub>	L	D <sub>3</sub>	Ø M	H	m						
	[Rp]						[mm]							[kg]			
MHIL 102	1"	1"	90	104	156.2	102.7	321.2	321.2	11	11	126	126	190	190	12.6	12.4	
MHIL 103	1"	1"	90	104	176.4	122.9	341.4	341.4	11	11	126	126	190	190	12.9	12.7	
MHIL 104	1"	1"	90	104	196.6	143.1	361.6	361.6	11	11	126	126	190	190	13.2	13.1	
MHIL 105	1"	1"	90	104	216.8	163.3	381.5	381.5	11	11	126	126	190	190	13.5	13.4	
MHIL 106	1"	1"	90	104	237.0	183.5	402.0	402.0	11	11	126	126	190	190	13.9	13.7	
MHIL 107	1"	1"	90	104	257.2	203.7	422.2	422.2	11	11	126	126	190	190	14.2	14.0	
MHIL 302	1"	1"	90	104	167.2	113.7	332.2	332.2	11	11	126	126	190	190	12.9	12.7	
MHIL 303	1"	1"	90	104	191.4	137.9	356.4	356.4	11	11	126	126	190	190	13.1	13.0	
MHIL 304	1"	1"	90	104	215.6	162.1	380.6	380.6	11	11	126	126	190	190	13.4	13.2	
MHIL 305	1"	1"	90	104	239.8	186.3	409.0	409.0	13.5	11	145	145	216	192	15.0	14.2	
MHIL 306	1"	1"	90	104	264.0	210.5	458.0	433.2	13.5	11	162	145	224	192	17.7	14.5	
MHIL 502	1¼"	1"	90	104	167.2	113.7	332.2	332.2	11	11	126	126	190	190	12.9	12.7	
MHIL 503	1¼"	1"	90	104	191.4	137.9	356.4	356.4	11	11	126	126	190	190	13.2	13.0	
MHIL 504	1¼"	1"	90	104	215.6	162.1	393.8	393.8	13.5	11	145	145	216	192	14.8	14.0	
MHIL 505	1¼"	1"	90	104	239.8	186.3	433.8	409.0	13.5	11	162	145	224	192	17.5	14.3	
MHIL 506	1¼"	1"	90	104	264.0	210.5	458.0	458.0	13.5	13.5	162	162	224	206	19.4	17.6	
MHIL 902	1½"	1¼"	90	104	173.2	119.7	342.4	342.4	13.5	11	145	145	216	192	14.2	13.4	
MHIL 903	1½"	1¼"	90	104	203.4	149.9	397.4	397.4	13.5	11	162	145	224	192	17.0	13.7	
MHIL 904	1½"	1¼"	90	104	233.6	180.1	428.6	428.6	13.5	13.5	162	162	224	206	18.8	17.1	
MHIL 905	1½"	1¼"	90	104	263.8	210.3	—	458.8	—	13.5	—	162	—	206	—	19.4	

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Multivert MVIL



#### Design

Non-self-priming multistage pump

#### Application

- Water supply and pressure boosting
- Commerce and industry
- Washing and spraying systems
- Rainwater utilisation
- Cooling and cold water circuits

#### Type key

Example: **MVIL 102/16/E/3-400-50-2**

<b>MVIL</b>	Multistage vertical high-pressure centrifugal pump
<b>1</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>E</b>	Seal type E = EPDM
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

#### Special features/product benefits

- Stainless steel hydraulics 1.4301 (AISI 304)
- Pump housing made of cast iron EN-GJL-250, cataphoretically coated
- All relevant components are KTW- and WRAS-certified
- Single-phase current and three-phase current versions

#### Equipment/function

- Pump in inline design
- Hydraulics in 1.4301, pump base in EN-GJL-250
- Oval flange
- Single-phase or three-phase motor
- Single-phase motor with integrated thermal motor protection

#### Technical data

- Mains connection 3~230 V /50 Hz ( $\Delta$ ) or optionally 220 V /60 Hz
- Mains connection 3~230 V /50 Hz ( $\Delta$ ), optionally 220 V /60 Hz ( $\Delta$ ), 400 V /50 Hz (Y) or optionally 380 V /60 Hz (Y)
- Fluid temperature -15 to +90 °C
- Max. operating pressure 10 bar or 16 bar, depending on type
- Max. inlet pressure 6 bar or 10 bar, depending on type
- Protection class IP 54

- Nominal diameters of pipe connections Rp 1, Rp 1½ or Rp 1¾, depending on type

#### Materials

- Impellers stainless steel 1.4301
- Stage chambers stainless steel 1.4301
- Pump housing EN-GJL-250 (cataphoretic coating)
- Shaft stainless steel 1.4404
- Seal EPDM
- Housing cover EN-GJL-250 (cataphoretic coating)
- Lower housing section EN-GJL-250 (cataphoretic coating)
- Mechanical seal SiC/carbon
- Bearing tungsten carbide
- Pump base EN-GJL-250 (cataphoretic coating)

#### Scope of delivery

- Pump
- Oval counter flanges Rp 1 to Rp 1 1/2
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Overview of versions Wilo-Multivert MVIL

#### Wilo-Multivert MVIL 1/3/5/9

##### Materials

Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	•
Parts in contact with fluid in 1.4301 (AISI 304)	–
Parts in contact with fluid in 1.4404 (AISI 316L)	–

##### Seal version

Seal	EPDM
------	------

##### Hydraulic connection

Threaded connection	–
Oval flange	•
Round flange	•
Victaulic quick coupling	–

##### Motor version

Individual motors	–
1~230 V, 50 Hz	• (up to $P_2 = 1.5 \text{ kW}$ )
3~230 V, 50 Hz	–
3~400 V, 50 Hz	•
3~500 V, 50 Hz	–
1~110 V, 60 Hz	–
1~220 V, 60 Hz	optional
3~380 V, 60 Hz	optional
3~400 V, 60 Hz	–
3~440 V, 60 Hz	–
3~460 V, 60 Hz	–
3~480 V, 60 Hz	–
3~380 V to 440 V and 50 Hz to 60 Hz	–
Protection class	IP 54
Explosion protection	–
Motors with PTC thermistors	–
Motors with UL certificates	–
Motors with CSA certificates	–
Thermal motor protection switch	• (only 1~motors)
Speed can be controlled via external FC	•
Integrated frequency converter	–
Painting	–
Individual painting	•

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Multivert MVIL

#### Wilo-Multivert MVIL 1/3/5/9

Mechanical seal	
Tungsten carbide/carbon	optional
SIC/carbon	-
Tungsten carbide/tungsten carbide	optional
SIC/SIC	optional
Potable water approvals	
KTW	•
WRAS	•

• = available, - = not available

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo-Multivert MVIL

	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...
	1..	3..	5..	9..
<b>Approved fluids</b>				
Potable water, heating water, process water	•	•	•	•
Condensate	-	-	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•
<b>Power</b>				
Max. volume flow [m <sup>3</sup> /h]	3.0	5.0	8.0	14.0
Max. delivery head [m]	112	136	134	82
Fluid temperature	-15 °C ... 90 °C	-15 °C ... 90 °C	-15 °C ... 90 °C	-15 °C ... 90 °C
Max. ambient temperature	40	40	40	40
Operating pressure	10	10	10	10
Inlet pressure	6	6	6	6
Nominal speed	2900	2900	2900	2900
<b>Motor</b>				
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz			
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ or 220 V, 60 Hz Y 400 V, 50 Hz Y or 380 V, 60 Hz Y			
Insulation class	F	F	F	F
Radio shielding degree	-	-	-	-
Protection class	IP 54	IP 54	IP 54	IP 54
<b>Connections</b>				
Nominal diameter of pipe connections on suction side	1	1	1½	1½
Nominal diameter of pipe connections on pressure side	1	1	1½	1½
Flange connections PN 16/PN 25	-	-	-	-
Vicatulic connections	-	-	-	-
<b>Materials</b>				
Impeller (standard)	1.4301			
Stage chambers	1.40301			
Pump housing	EN-GJL-250 (cataphoretically coated)			
Pump shaft	1.4028			
Seal	EPDM			
Housing cover	EN-GJL-250 (cataphoretically coated)			

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Multivert MVIL

	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...	Wilo-Multivert MVIL ...
	1..	3..	5..	9..
Lower housing section	EN-GJL-250 (cataphoretically coated)			
Mechanical seal	SiC/carbon			
Pressure shroud	1.4301			
Bearing	Tungsten carbide			
Pump base	EN-GJL-250 (cataphoretically coated)			
Pump base (in contact with the fluid)	-			

• = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

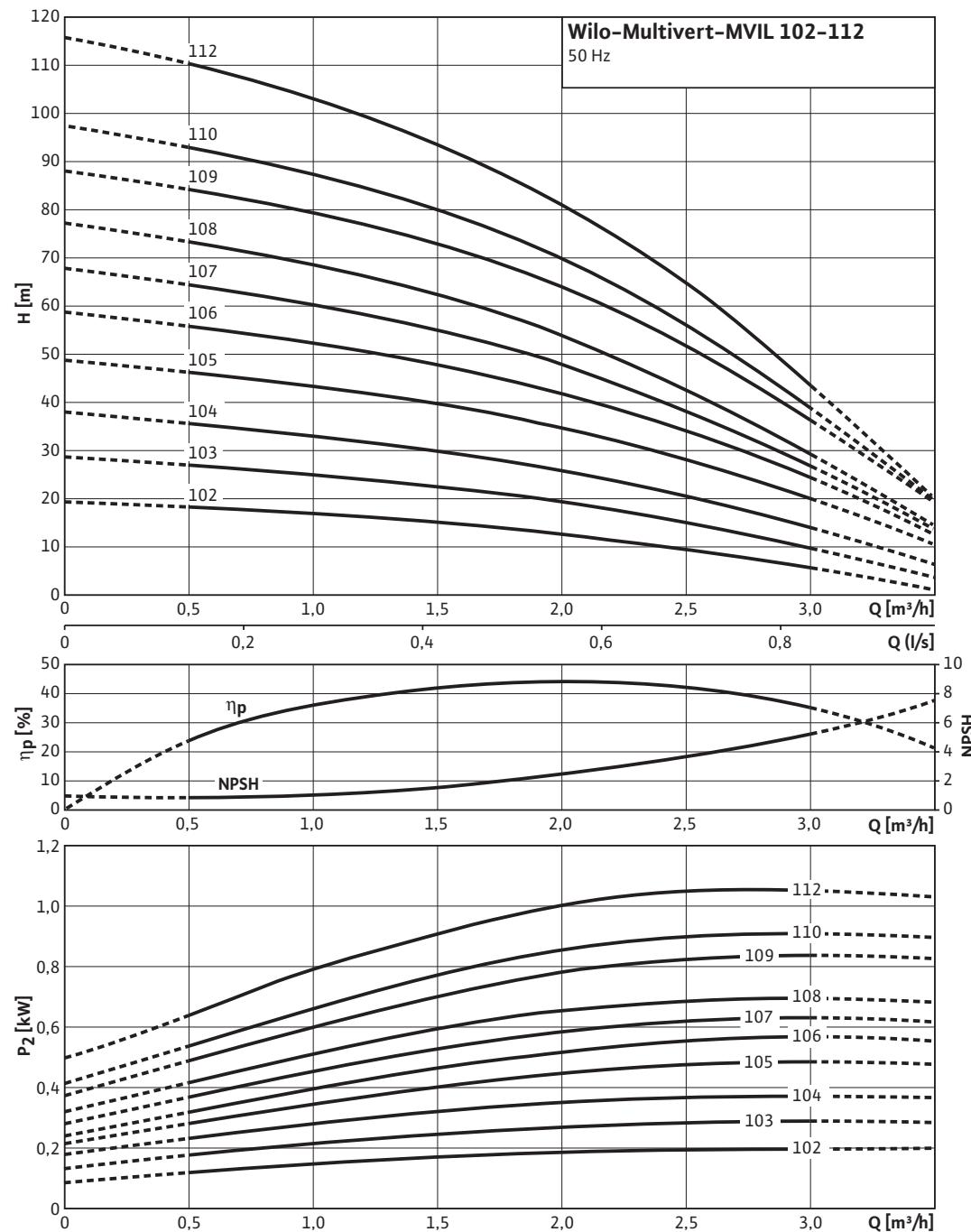
**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIL

### Wilo-Multivert MVIL 102 to 112

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

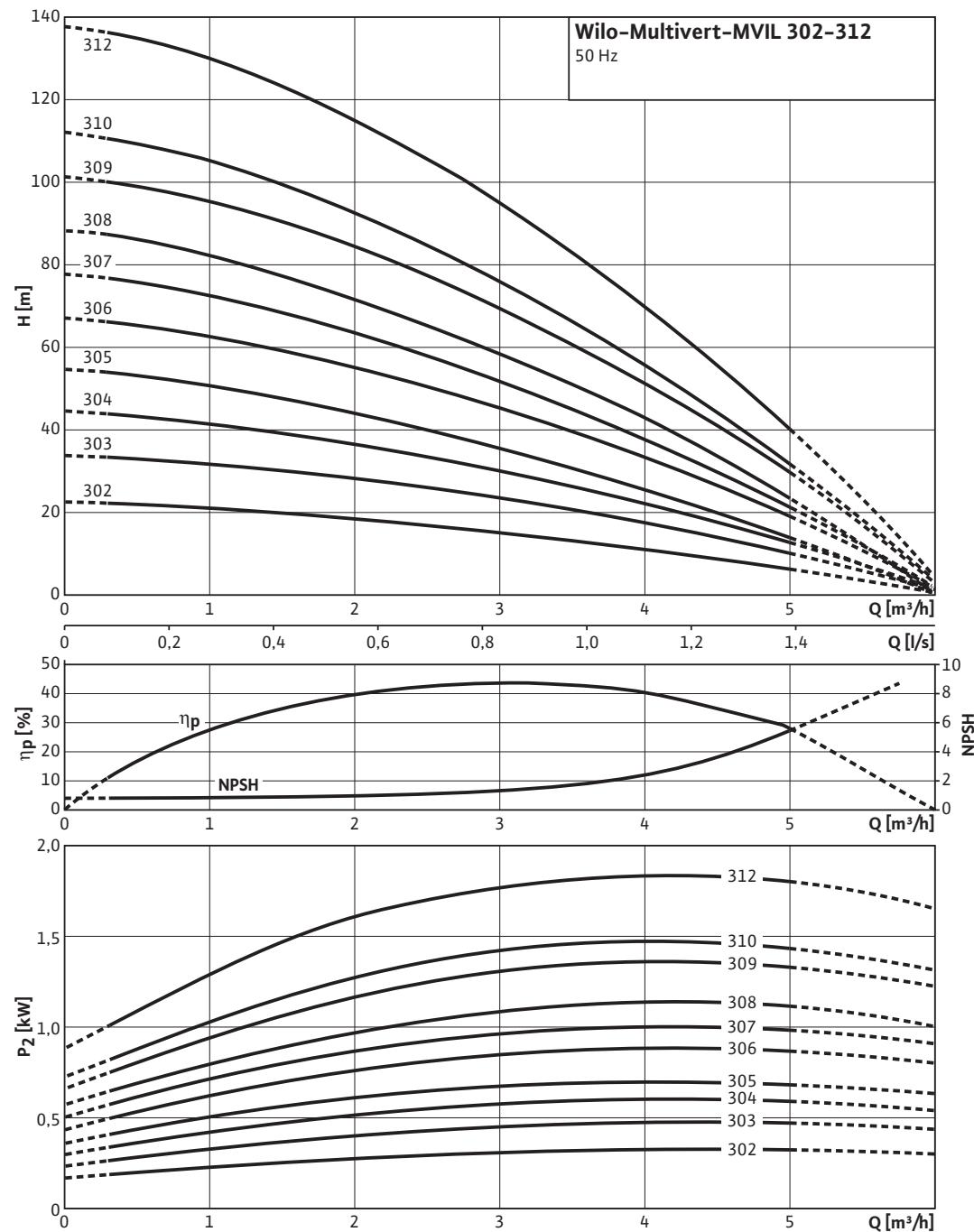
# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIL

Wilo-Multivert MVIL 302 to 312

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

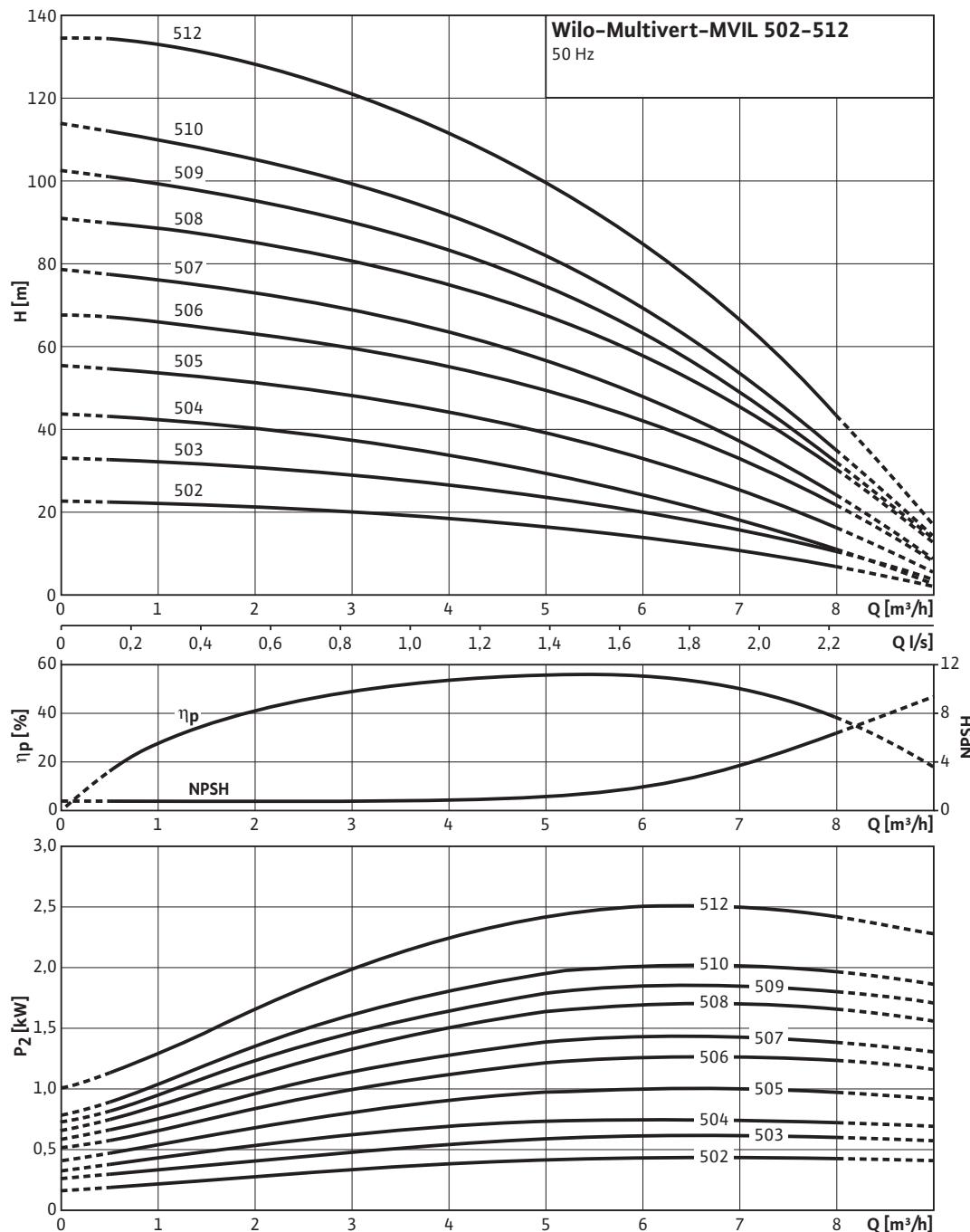
**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIL

### Wilo-Multivert MVIL 502 to 512

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

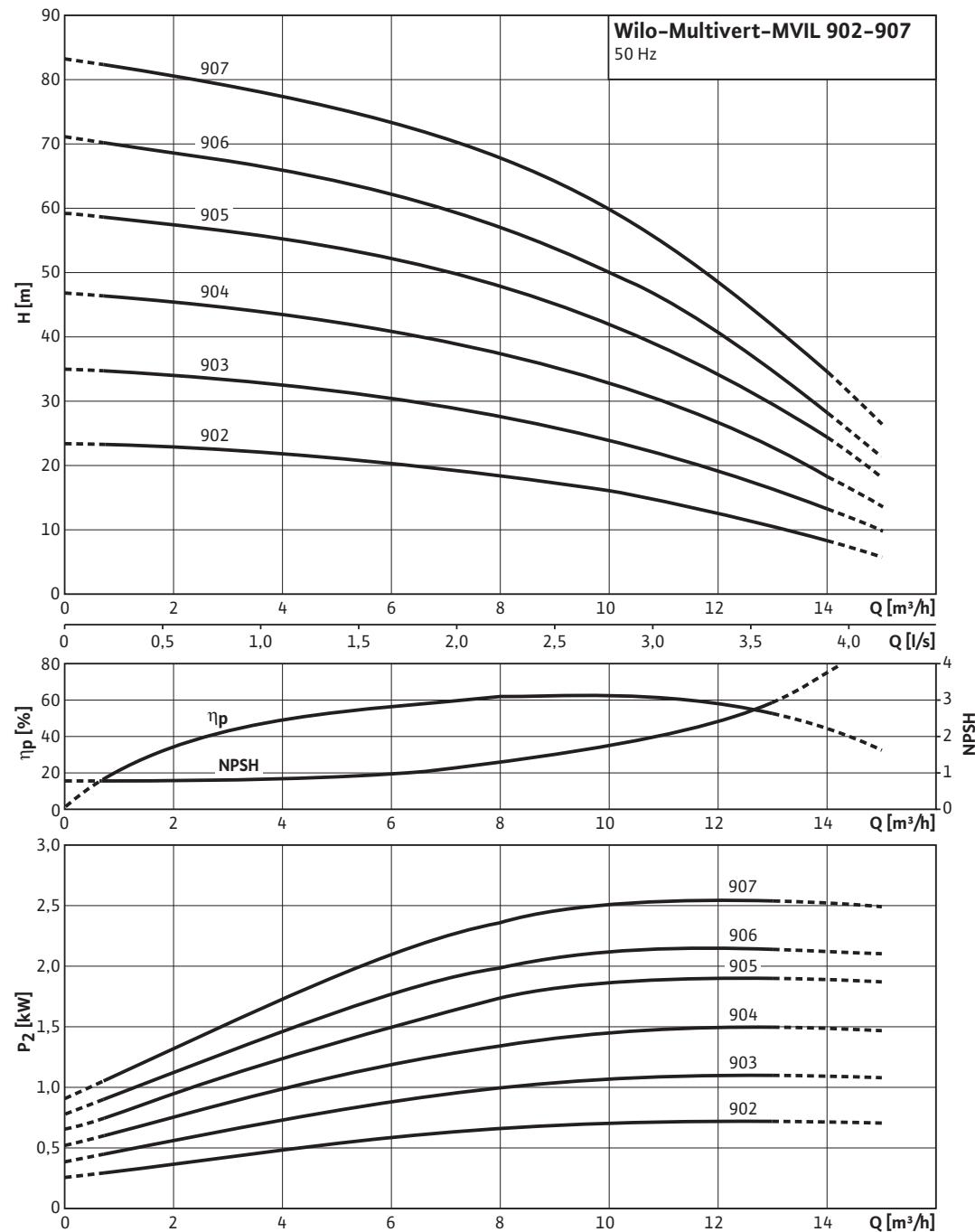
# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIL

Wilo-Multivert MVIL 902 to 907

2-pole/50 Hz



Pump curves in accordance with ISO 9906, class 2

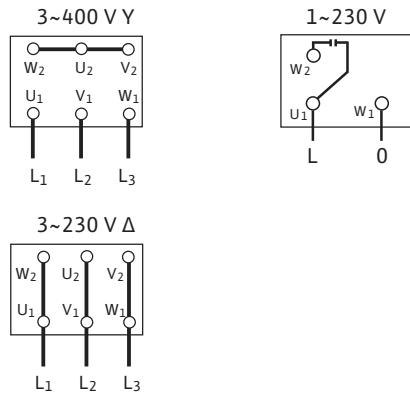
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Terminal diagram, motor data Wilo-Multivert MVIL

### Terminal diagram



### Motor data

MVIL 102	Nominal motor power		Nominal current	
	1~230V, 50 Hz	3~230V/3~400V, 50 Hz	1~230V, 50 Hz	3~230V/3~400V, 50 Hz
	$P_2$		$I_N$	
	[kW]		[A]	
MVIL 102	0.55	0.37	4.00	1.70 / 1.00
MVIL 103	0.55	0.37	4.00	1.70 / 1.00
MVIL 104	0.55	0.37	4.00	1.70 / 1.00
MVIL 105	0.55	0.55	4.00	3.10 / 1.80
MVIL 106	0.55	0.55	4.00	3.10 / 1.80
MVIL 107	0.75	0.75	4.70	3.10 / 1.80
MVIL 108	0.75	0.75	4.70	3.10 / 1.80
MVIL 109	1.10	1.10	7.50	4.20 / 2.40
MVIL 110	1.10	1.10	7.50	4.20 / 2.40
MVIL 112	1.10	1.10	7.50	4.20 / 2.40
MVIL 302	0.55	0.37	4.00	1.70 / 1.00
MVIL 303	0.55	0.55	4.00	3.10 / 1.80
MVIL 304	0.75	0.75	4.70	3.10 / 1.80
MVIL 305	0.75	0.75	4.70	3.10 / 1.80
MVIL 306	1.10	1.10	7.50	4.20 / 2.40
MVIL 307	1.10	1.10	7.50	4.20 / 2.40
MVIL 308	1.50	1.50	9.60	5.60 / 3.30
MVIL 309	1.50	1.50	9.60	5.60 / 3.30
MVIL 310	1.50	1.50	9.60	5.60 / 3.30

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVIL

Motor data				
MVIL 102	Nominal motor power		Nominal current	
	1~230V, 50 Hz	3~230V/3~400V, 50 Hz	1~230V, 50 Hz	3~230V/3~400V, 50 Hz
	P <sub>2</sub> [kW]		I <sub>N</sub> [A]	
MVIL 312	–	1.85	–	7.00 /4.10
MVIL 502	0.55	0.55	4.00	3.10 /1.80
MVIL 503	0.75	0.75	4.70	3.10 /1.80
MVIL 504	1.10	1.10	7.50	4.20 /2.40
MVIL 505	1.10	1.10	7.50	4.20 /2.40
MVIL 506	1.50	1.50	9.60	5.60 /3.30
MVIL 507	1.50	1.50	9.60	5.60 /3.30
MVIL 508	–	1.85	–	7.00 /4.10
MVIL 509	–	1.85	–	7.00 /4.10
MVIL 510	–	2.50	–	10.00 /5.85
MVIL 512	–	2.50	–	10.00 /5.85
MVIL 902	0.75	0.75	4.70	3.10 /1.80
MVIL 903	1.10	1.10	7.50	4.20 /2.40
MVIL 904	1.50	1.50	9.60	5.60 /3.30
MVIL 905	–	1.85	–	7.00 /4.10
MVIL 906	–	2.50	–	10.00 /5.85
MVIL 907	–	2.50	–	10.00 /5.85

# High-pressure multistage centrifugal pumps

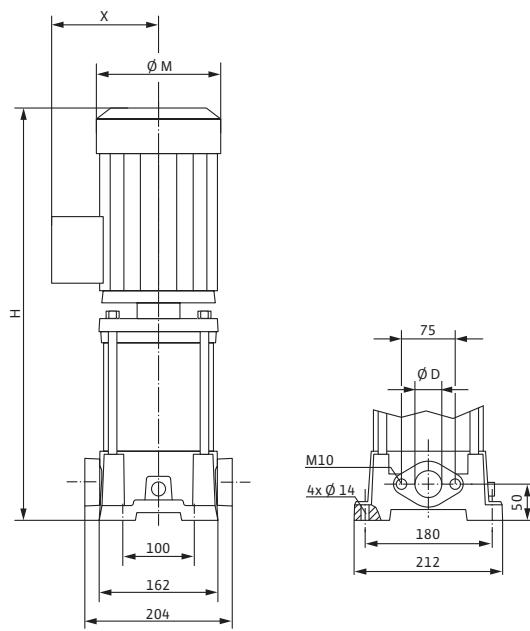
**WILO**

Single pumps

## Dimensions, weights Wilo-Multivert MVIL

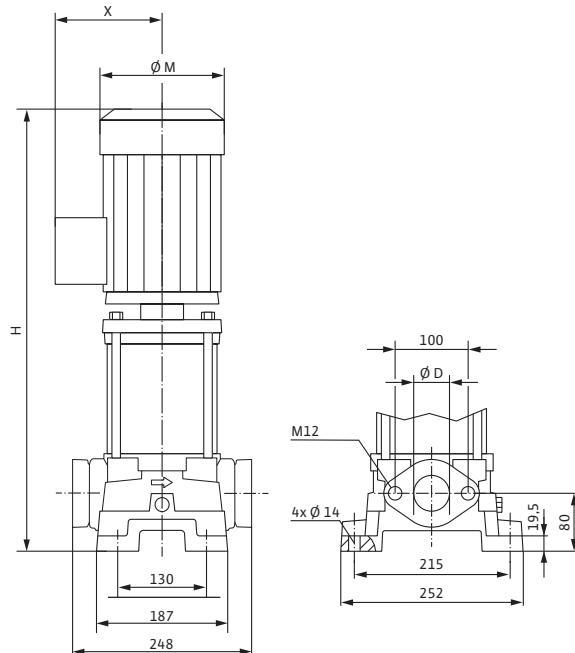
### Dimension drawing

Wilo-Multivert MVIL 102 – 512



### Dimension drawing

Wilo-Multivert MVIL 902 – 907



### Dimensions, weights

Wilo Multi-vert...	Pump flange dimensions	Dimensions						Weight approx.	
		1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V
		Ø d ["]	H	Ø M [mm]	X			m	[kg]
				[mm]					
MVIL 102	1	418	418	121	121	117	110	17.5	17.5
MVIL 103	1	418	418	121	121	117	110	17.8	17.8
MVIL 104	1	418	418	121	121	117	110	21.1	21.1
MVIL 105	1	438	438	121	121	117	110	21.4	21.4
MVIL 106	1	458	458	121	121	117	110	24.7	21.7
MVIL 107	1	485	485	136	136	125	118	24.9	21.9
MVIL 108	1	525	525	136	136	125	118	25.2	25.2
MVIL 109	1	532	525	156	136	133	118	25.5	25.5
MVIL 110	1	552	545	156	136	133	118	25.8	22.8
MVIL 112	1	592	585	156	136	133	118	26.3	23.3
MVIL 302	1	410	410	121	121	117	110	17.6	17.6
MVIL 303	1	410	410	121	121	117	110	20.9	20.9
MVIL 304	1	441	441	136	136	125	118	24.3	21.3
MVIL 305	1	465	465	136	136	125	118	24.7	24.7
MVIL 306	1	496	489	156	136	133	118	23.4	23.4
MVIL 307	1	520	513	156	136	133	118	25.4	25.4
MVIL 308	1	544	544	156	156	133	126	25.7	27.3

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVIL

Dimensions, weights								
Wilo Multi-vert...	Pump flange dimensions	Dimensions						Weight approx.
		1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	
		Ø d [mm]	H [mm]	Ø M [mm]	X [mm]	Ø d [mm]	H [mm]	
MVIL 309	1	592	592	156	156	133	126	26.1
MVIL 310	1	592	592	156	156	133	126	26.5
MVIL 312	1	—	640	—	156	—	126	—
MVIL 502	1 1/4	410	410	121	121	117	110	20.7
MVIL 503	1 1/4	417	417	136	136	125	118	24.1
MVIL 504	1 1/4	448	441	156	136	133	118	24.5
MVIL 505	1 1/4	472	465	156	136	133	118	24.8
MVIL 506	1 1/4	496	496	156	156	133	126	25.2
MVIL 507	1 1/4	520	520	156	156	133	126	25.6
MVIL 508	1 1/4	—	544	—	156	—	126	—
MVIL 509	1 1/4	—	592	—	156	—	126	—
MVIL 510	1 1/4	—	639	—	193	—	148	—
MVIL 512	1 1/4	—	687	—	193	—	148	—
MVIL 902	1 1/2	463	463	136	136	125	118	26.5
MVIL 903	1 1/2	470	463	156	136	133	118	26.9
MVIL 904	1 1/2	500	500	156	156	133	126	27.3
MVIL 905	1 1/2	—	530	—	156	—	126	—
MVIL 906	1 1/2	—	607	—	193	—	148	—
MVIL 907	1 1/2	—	637	—	193	—	148	—

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series description Wilo-Economy MHI



#### Design

Non-self-priming multistage pump

#### Application

- Water supply and pressure boosting
- Commerce and industry
- Cooling water circulation systems
- Washing and sprinkling systems

#### Type key

Example: **MHI 202-1/E/1-230-50-2**

<b>MHI</b>	Multistage horizontal high-pressure centrifugal pump
<b>2</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>1</b>	Material 1 = 1.4301 (AISI 304) 2 = 1.4404 (AISI 316L)
<b>E</b>	Seal type E = EPDM V = Viton
<b>1</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>230</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

#### Special features/product benefits

- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- Compact design
- All relevant components are KTW- and WRAS-certified

#### Equipment/function

- Stainless steel in monobloc design
- Threaded connection
- Single-phase or three-phase motor
- Single-phase motor with integrated thermal motor protection

#### Technical data

- Mains connection 1~230 V / 50 Hz or optionally 220 V / 60 Hz
- Mains connection 3~230V / 50 Hz ( $\Delta$ ) or optionally 220 V / 60 Hz ( $\Delta$ ), 400 V / 50 Hz (Y) or optionally 380 V / 60 Hz (Y)
- Fluid temperature -15 to +110 °C
- Max. operating pressure 10 bar

- Max. inlet pressure 6 bar

- Protection class IP 54

- Nominal diameters of pipe connections Rp 1, Rp 1 ¼ or Rp 1 ½, depending on type

#### Materials

- Impellers, stage chambers and pump housing stainless steel 1.4301/1.4404
- Shaft stainless steel 1.4404
- Seal EPDM (EP 851)/Viton
- Mechanical seal B-carbon/tungsten carbide
- Bearing tungsten carbide
- Pump base aluminium

#### Scope of delivery

- Pump
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Economy MHI

Wilo-Economy MHI 2/4/8/16

#### Materials

Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	—
Parts in contact with fluid in 1.4301 (AISI 304)	•
Parts in contact with fluid in 1.4404 (AISI 316L)	• (only versions 2../4../8..)

#### Seal version

Seal	EPDM/Viton
------	------------

#### Hydraulic connection

Threaded connection	•
Oval flange	—
Round flange	—
Victaulic quick coupling	—

#### Motor version

Individual motors	optional
1~230 V, 50 Hz	• (up to $P_2 = 1.5 \text{ kW}$ )
3~230 V, 50 Hz	—
3~400 V, 50 Hz	• (up to $P_2=4 \text{ kW}$ for 230/400V; from $P_2=5.5 \text{ kW}$ and higher only for 400 V Δ)
3~500 V, 50 Hz	—
1~110 V, 60 Hz	optional
1~220 V, 60 Hz	optional
3~380 V, 60 Hz	optional
3~400 V, 60 Hz	optional
3~440 V, 60 Hz	optional
3~460 V, 60 Hz	optional
3~480 V, 60 Hz	optional
3~380 V to 440 V and 50 Hz to 60 Hz	—
Protection class	IP 54
Explosion protection	—
Motors with PTC thermistors	optional
Motors with UL certificates	—
Motors with CSA certificates	—
Thermal motor protection switch	• (only 1~motors)
Speed can be controlled via external FC	•
Integrated frequency converter	• (for 1~ motors)

# High-pressure multistage centrifugal pumps



Single pumps

## Overview of versions Wilo-Economy MHI

### Wilo-Economy MHI 2/4/8/16

#### Painting

Individual painting •

#### Mechanical seal

Tungsten carbide/carbon •

SIC/carbon –

Tungsten carbide/tungsten carbide optional

SIC/SIC optional

#### Potable water approvals

KTW •  
(only for EPDM version)

WRAS •  
(only for EPDM version)

• = available, – = not available

Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data MHI

	Wilo-Economy MHI ...			
	2..	4..	8..	16..
<b>Approved fluids</b>				
Potable water, heating water, process water	•	•	•	•
Condensate	•	•	•	•
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•
<b>Power</b>				
Max. volume flow [m <sup>3</sup> /h]	5.0	8.0	13.0	25.0
Max. delivery head [m]	70	68	67	47
Fluid temperature	-15 °C ... 110 °C	-15 °C ... 110 °C	-15 °C ... 110 °C	-15 °C ... 110 °C
Max. ambient temperature	40	40	40	40
Operating pressure	10	10	10	10
Inlet pressure	6	6	6	6
Nominal speed	2950	2950	2950	2950
<b>Motor</b>				
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz			
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ or 220 V, 60 Hz Δ 400 V, 50 Hz Y or 380 V, 60 Hz Y			
Insulation class	F	F	F	F
Radio shielding degree	EN 61800-3	EN 61800-3	EN 61800-3	EN 61800-3
Protection class	IP 54	IP 54	IP 54	IP 54
<b>Connections</b>				
Nominal diameter of pipe connections on suction side	1	1	1½	1½
Nominal diameter of pipe connections on pressure side	1	1¼	1¼	1½
Flange connections PN 16/PN 25	-	-	-	-
Victrallic connections	-	-	-	-
<b>Materials</b>				
Impeller (standard)	1.4301/1.4404			
Stage chambers	1.40301/1.4404			
Pump housing	1.4301/1.4404			
Pump shaft	1.4404			
Seal	EPDM/Viton			EPDM/Viton optional
Housing cover	1.4301/1.4404			1.4301
Lower housing section	-			

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Technical data MHI

	Wilo-Economy MHI ...			
	2..	4..	8..	16..
Mechanical seal		B-carbon/tungsten carbide SiC/carbon		
Pressure shroud		1.4301/1.4404		
Bearing		Tungsten carbide		
Pump base		Aluminium		
Pump base (in contact with the fluid)		–		

• = available, – = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

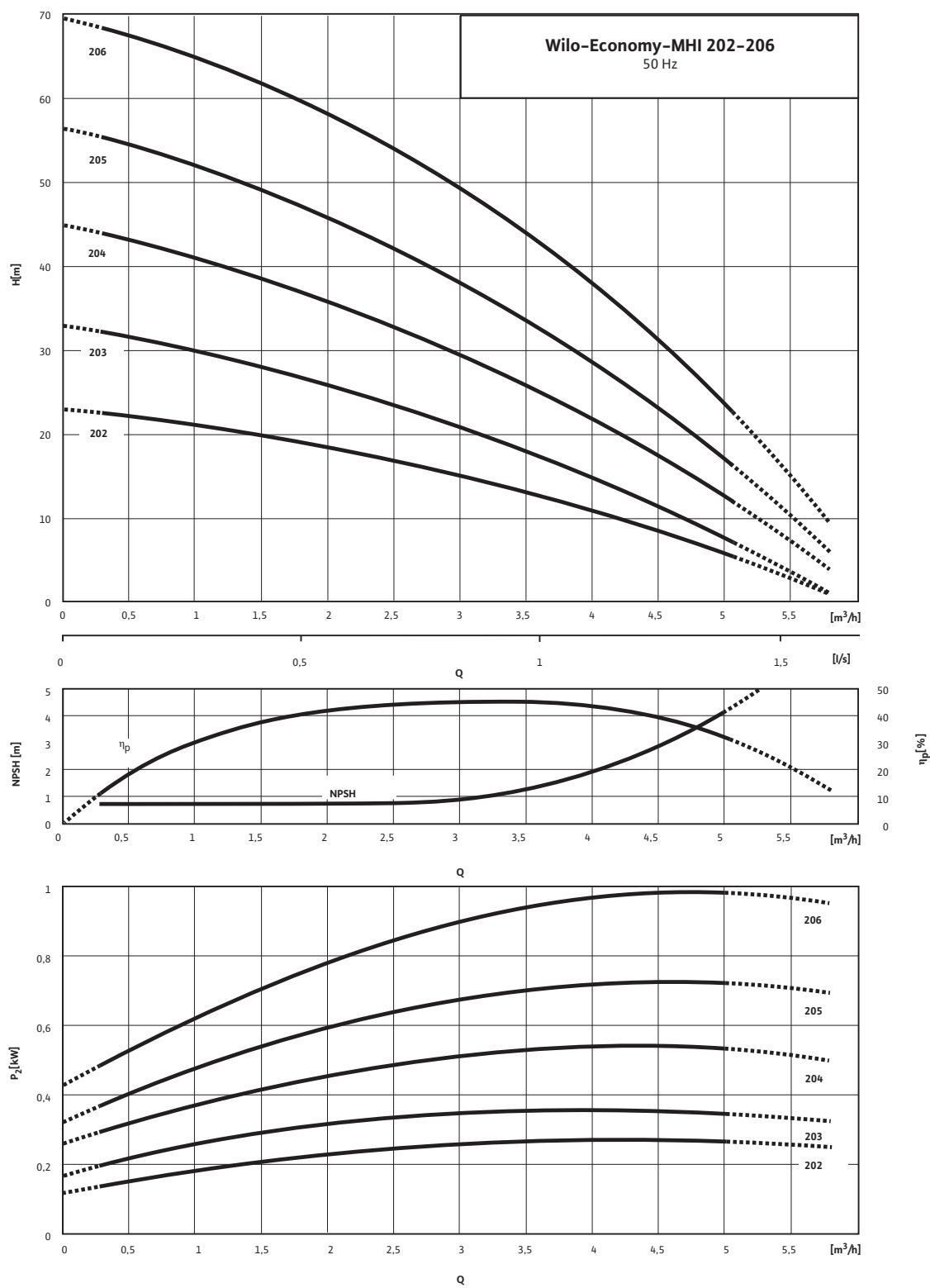
1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHI

#### Wilo-Economy MHI 202 – 206



Pump curves in accordance with ISO 9906, class 2

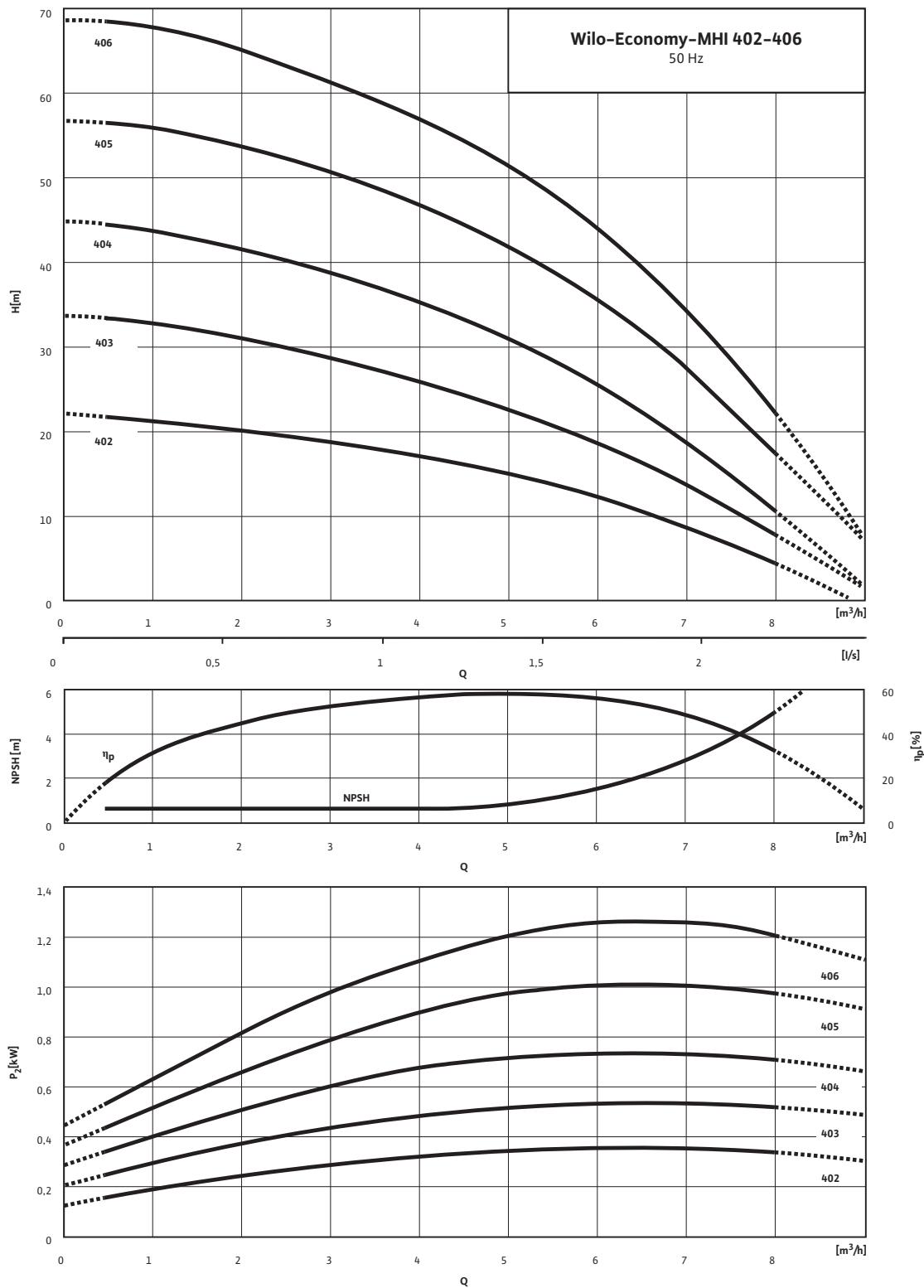
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Economy MHI

Wilo-Economy MHI 402 – 406



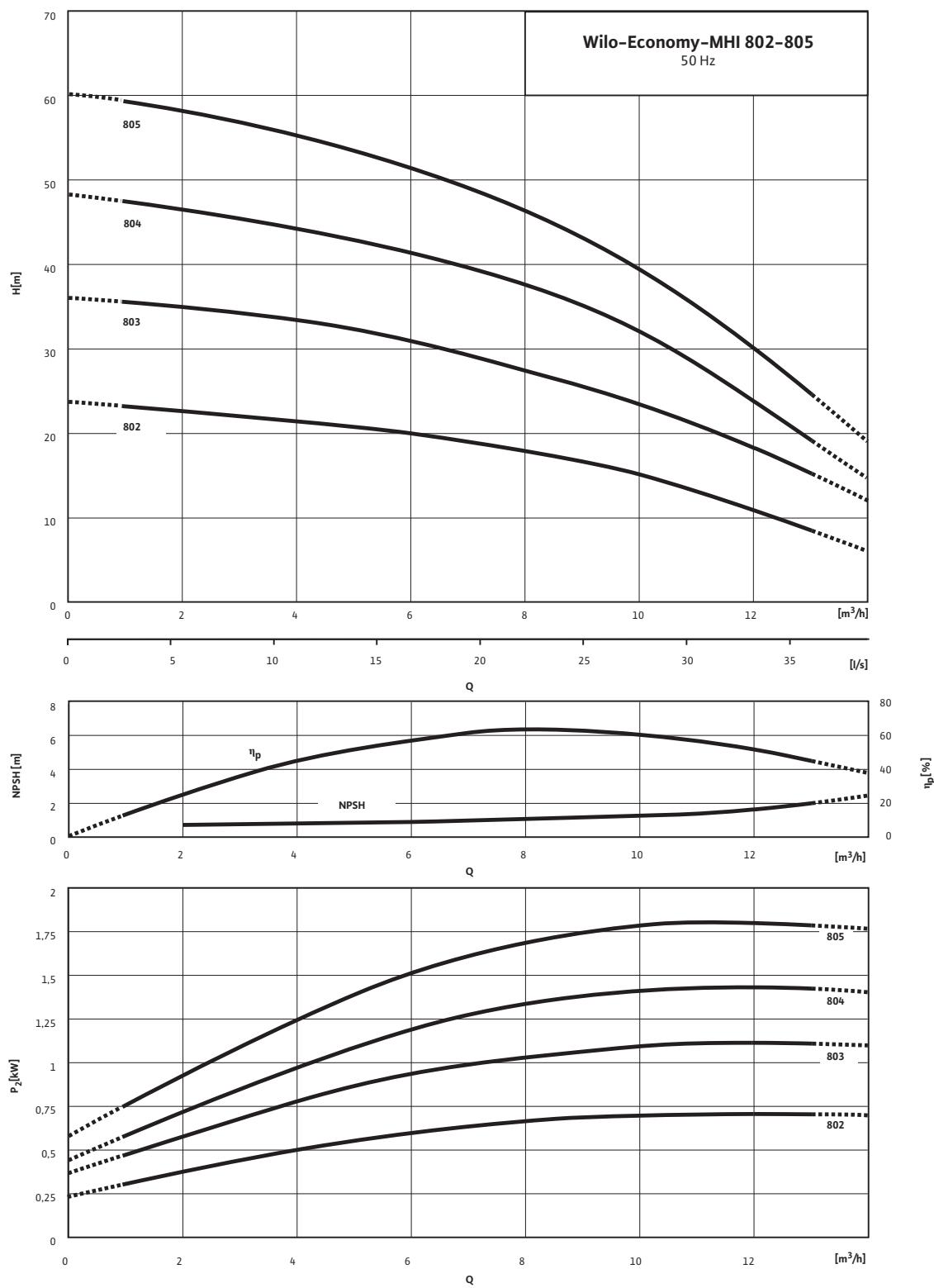
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHI

#### Wilo-Economy MHI 802 – 805



Pump curves in accordance with ISO 9906, class 2

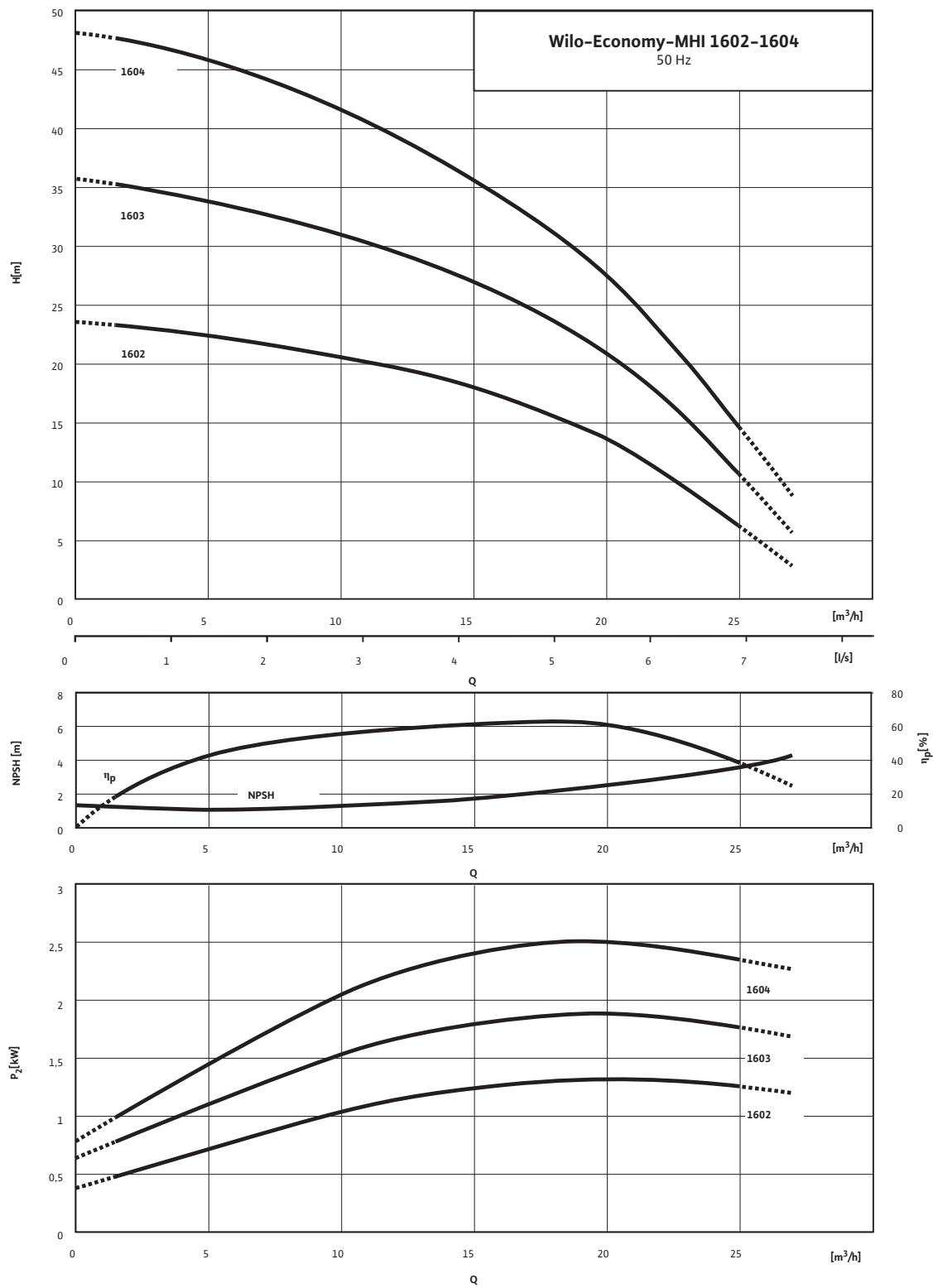
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Economy MHI

#### Wilo-Economy MHI 1602 – 1604



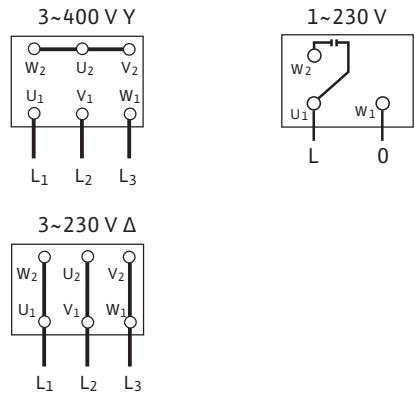
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Economy MHI

#### Terminal diagram



#### Motor data

Wilo Economy...	Nominal motor power P <sub>2</sub> [kW]	Nominal current	
		1~230V, 50 Hz	3~230V/3~400V, 50 Hz
		I <sub>N</sub> [A]	
MHI 202	0.55	4.00	3.00 / 1.70
MHI 203	0.55	4.00	3.00 / 1.70
MHI 204	0.55	4.00	3.00 / 1.70
MHI 205	0.75	5.10	3.60 / 2.10
MHI 206	1.10	7.20	5.30 / 3.10
MHI 402	0.55	4.00	3.00 / 1.70
MHI 403	0.55	4.00	3.00 / 1.70
MHI 404	0.75	5.10	3.60 / 2.10
MHI 405	1.10	7.20	5.30 / 3.10
MHI 406	1.50	9.20	6.60 / 3.80
MHI 802	0.75	5.10	3.60 / 2.10
MHI 803	1.10	7.20	5.30 / 3.10
MHI 804	1.50	9.20	6.60 / 3.80
MHI 805	1.85	—	8.55 / 4.95
MHI 1602	1.50	—	6.60 / 3.80
MHI 1603	1.85	—	8.55 / 4.95
MHI 1604	2.50	—	10.10 / 5.85

# High-pressure multistage centrifugal pumps

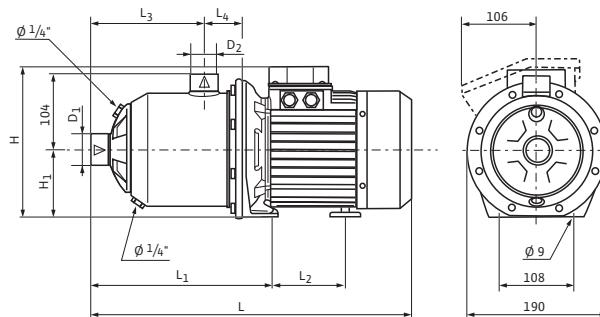
**WILO**

## Single pumps

### Dimensions, weights Wilo-Economy MHI

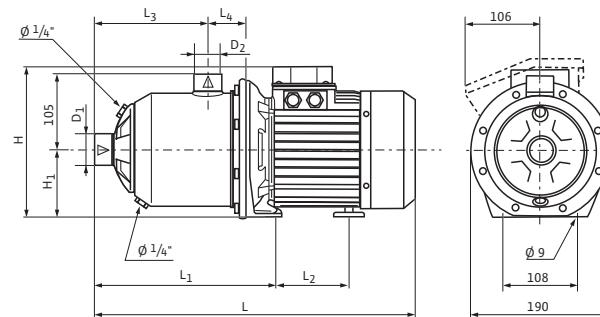
#### Dimension drawing

Wilo-Economy MHI 202 – 805



#### Dimension drawing

Wilo-Economy MHI 1602 – 1604



Terminal box, AC version (Represented by broken line)

Terminal box, AC version (Represented by broken line)

#### Dimensions, weights

Wilo Economy...	Dimensions												Weight approx.		
						1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V
	Ø D <sub>1</sub>	Ø D <sub>2</sub>	I <sub>1</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>2</sub>		L		H		H <sub>1</sub>		m	
	[Rp]					[mm]		[mm]		[kg]		[kg]			
MHI 202	1"	1"	204.0	109.5	51	95.0	95.0	375.0	375.0	216	192	90	90	9.8	8.9
MHI 203	1"	1"	204.0	109.5	51	95.0	95.0	375.0	375.0	216	192	90	90	9.8	8.9
MHI 204	1"	1"	252.0	157.5	51	95.0	95.0	423.0	423.0	216	192	90	90	10.6	9.7
MHI 205	1"	1"	252.0	157.5	51	95.0	95.0	423.0	423.0	216	192	90	90	12.2	11.3
MHI 206	1"	1"	276.0	181.5	51	103.5	95.0	472.0	447.0	224	192	90	90	15.7	12.9
MHI 402	1¼"	1"	204.0	109.5	51	95.0	95.0	375.0	375.0	216	192	90	90	9.8	8.9
MHI 403	1¼"	1"	204.0	109.5	51	95.0	95.0	375.0	375.0	216	192	90	90	10.7	9.8
MHI 404	1¼"	1"	252.0	157.5	51	95.0	95.0	423.0	423.0	216	192	90	90	12.2	11.3
MHI 405	1¼"	1"	252.0	157.5	51	103.5	95.0	448.0	423.0	224	192	90	90	15.2	12.9
MHI 406	1¼"	1"	276.0	181.5	51	103.5	103.5	472.0	472.0	224	206	90	90	17.8	15.2
MHI 802	1½"	1¼"	216.0	121.5	51	95.0	95.0	387.0	387.0	216	192	90	90	15.8	10.6
MHI 803	1½"	1¼"	216.0	121.5	51	103.5	95.0	412.0	387.0	224	192	90	90	14.5	12.2
MHI 804	1½"	1¼"	276.0	181.5	51	103.5	103.5	472.0	472.0	224	206	90	90	16.0	15.8
MHI 805	1½"	1¼"	276.0	181.5	51	—	103.5	—	472.0	—	206	—	90	—	17.0
MHI 1602	2"	1½"	235.5	138.0	54	—	103.5	—	431.5	—	206	—	90	—	15.7
MHI 1603	2"	1½"	235.5	138.0	54	—	103.5	—	431.5	—	206	—	90	—	17.9
MHI 1604	2"	1½"	280.5	183.0	54	—	136.5	—	515.5	—	221	—	100	—	21.4

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Economy MHIE



#### Design

Non-self-priming multistage pump with integrated frequency converter

- Integrated frequency converter
- Three-phase version with red-button technology and LCD display for status display
- Integrated thermal motor protection

#### Application

- Water supply and pressure boosting
- Fire fighting systems
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems

#### Type key

Example: **MHIE 402-1/E/3-2/M13-2G**

<b>MHIE</b>	Multistage horizontal high-pressure centrifugal pump, electronically controlled
<b>4</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>1</b>	Material 1 = 1.4301 (AISI 304) 2 = 1.4404 (AISI 316L)
<b>E</b>	Seal type E = EPDM V = Viton
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current) - = hydraulics without motor
<b>M13</b>	Preset operating mode on delivery M13 = mode 1 or 3 (manual or remote control) M2 = mode 2 (pressure controlled operation)
<b>2G</b>	Frequency converter, second generation

#### Technical data

- Mains connection 1 ~ 230 V / 50 Hz or 230 V / 60 Hz
- Mains connection 3~400 V / 50 Hz (Y) or 400 V / 60 Hz (Y)
- Fluid temperature -15 to +110 °C
- Max. operating pressure 10 bar
- Max. inlet pressure 6 bar
- Protection class IP 54
- Emitted interference in accordance with EN 50081 T2 (EN 50081 T1 optional)
- Interference resistance in accordance with EN 50082 T2
- Nominal diameters of pipe connections on suction side Rp 1, Rp 1 1/4, Rp 1 1/2 or Rp 2, depending on type
- Nominal diameters of pipe connections on pressure side Rp 1, Rp 1 1/4 or Rp 1 1/2, depending on type

#### Materials

- Impellers, stage chambers and pump housing stainless steel 1.4301/1.4404
- Shaft stainless steel 1.4404
- Seal EPDM (EP 851) / Viton
- Mechanical seal B-carbon/tungsten carbide
- Bearing tungsten carbide
- Pump base aluminium

#### Scope of delivery

- Pump
- Installation and operating instructions

#### Special features/product benefits

- Easy commissioning
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- Compact design
- Integrated frequency converter
- Full motor protection
- All relevant components are KTW- and WRAS-certified

#### Equipment/function

- Stainless steel pump with block construction
- Hydraulics in 1.4301
- Threaded connection

# High-pressure multistage centrifugal pumps



## Single pumps

### Overview of versions Wilo-Economy MHIE

Wilo-Economy MHIE 2/4/8/16

#### Materials

Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	–
Parts in contact with fluid in 1.4301 (AISI 304)	•
Parts in contact with fluid in 1.4404 (AISI 316L)	• (only versions 2../4../8..)

#### Seal version

Seal	EPDM/Viton
------	------------

#### Hydraulic connection

Threaded connection	•
Oval flange	–
Round flange	–
Victaulic quick coupling	–

#### Motor version

Individual motors	–
1~230 V, 50 Hz	• (only versions 2../4..)
3~230 V, 50 Hz	–
3~400 V, 50 Hz	•
3~500 V, 50 Hz	–
1~110 V, 60 Hz	–
1~220 V, 60 Hz	–
3~380 V, 60 Hz	•
3~400 V, 60 Hz	•
3~440 V, 60 Hz	•
3~460 V, 60 Hz	–
3~480 V, 60 Hz	–
3~380 V to 440 V and 50 Hz to 60 Hz	•
Protection class	IP 54
Explosion protection	–
Motors with PTC thermistors	•
Motors with UL certificates	–
Motors with CSA certificates	–
Thermal motor protection switch	•
Speed can be controlled via external FC	–
Integrated frequency converter	•
<b>Painting</b>	
Individual painting	•

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Economy MHIE

Wilo-Economy MHIE 2/4/8/16

#### Mechanical seal

Tungsten carbide/carbon	•
SIC/carbon	•
Tungsten carbide/tungsten carbide	optional
SIC/SIC	optional

#### Potable water approvals

KTW	• (only for EPDM version)
WRAS	• (only for EPDM version)

• = available, - = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Technical data Wilo-Economy MHIE

	Wilo-Economy MHIE ...			
	2..	4..	8..	16..
<b>Approved fluids</b>				
Potable water, heating water, process water	•	•	•	•
Condensate	•	•	•	•
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•
<b>Power</b>				
Max. volume flow [m <sup>3</sup> /h]	7.0	12.0	18.0	30.0
Max. delivery head [m]	80	84	50	32
Fluid temperature	-15 °C ... 110 °C	-15 °C ... 110 °C	-15 °C ... 110 °C	-15 °C ... 110 °C
Max. ambient temperature	40	40	40	40
Operating pressure	10	10	10	10
Inlet pressure	6	6	6	6
Nominal speed	1500 - 3770	1500 - 3770	1500 - 3770	1500 - 3770
<b>Motor</b>				
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 230 V, 60 Hz			
Mains connection 3~ (permitted voltage tolerance +/- 10%)	400 V, 50 Hz Y or 400 V, 60 Hz Y			
Insulation class	F	F	F	F
Emitted interference	EN 50081-2; EN 50081-1 optional			
Interference resistance	EN 50082-2	EN 50082-2	EN 50082-2	EN 50082-2
Protection class	IP 54	IP 54	IP 54	IP 54
<b>Connections</b>				
Nominal diameter of pipe connections on suction side	1	1½	1½	1½
Nominal diameter of pipe connections on pressure side	1	1	1¼	1½
Flange connections PN 16/PN 25	-	-	-	-
Victaulic connections	-	-	-	-
<b>Materials</b>				
Impeller (standard)	1.4301/1.4404			
Stage chambers	1.40301/1.4404			
Pump housing	1.4301/1.4404			
Pump shaft	1.4404			
Seal	EPDM/Viton			
Housing cover	1.4301/1.4404			

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Economy MHIE

	Wilo-Economy MHIE ...			
	2..	4..	8..	16..
Lower housing section		1.4301		
Mechanical seal		B-carbon/tungsten carbide SiC/carbon		
Pressure shroud		1.4301/1.4404		
Bearing		Tungsten carbide		
Pump base		Aluminium		
Pump base (in contact with the fluid)				

• = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

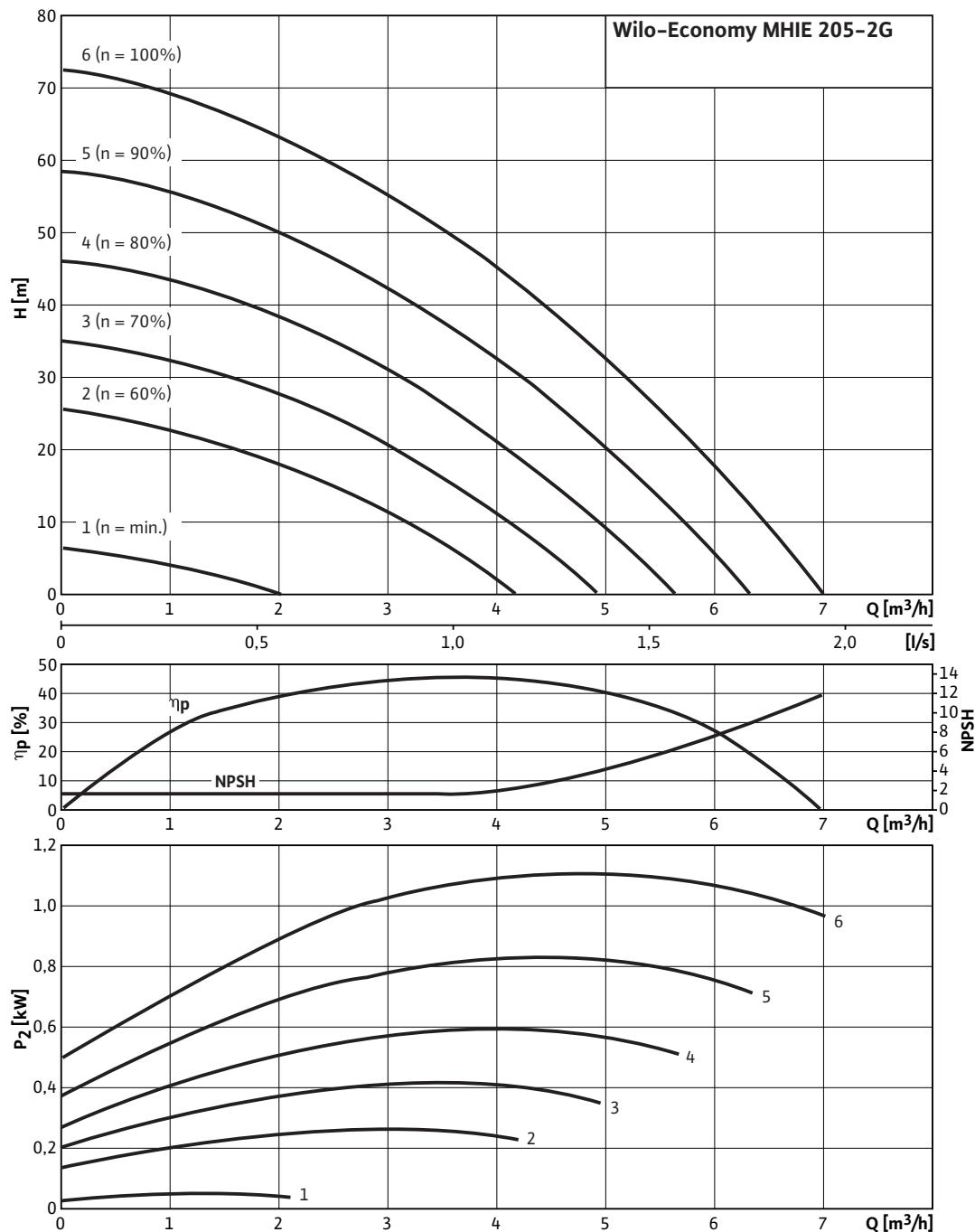
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Economy MHIE

Wilo-Economy MHIE 205-2G



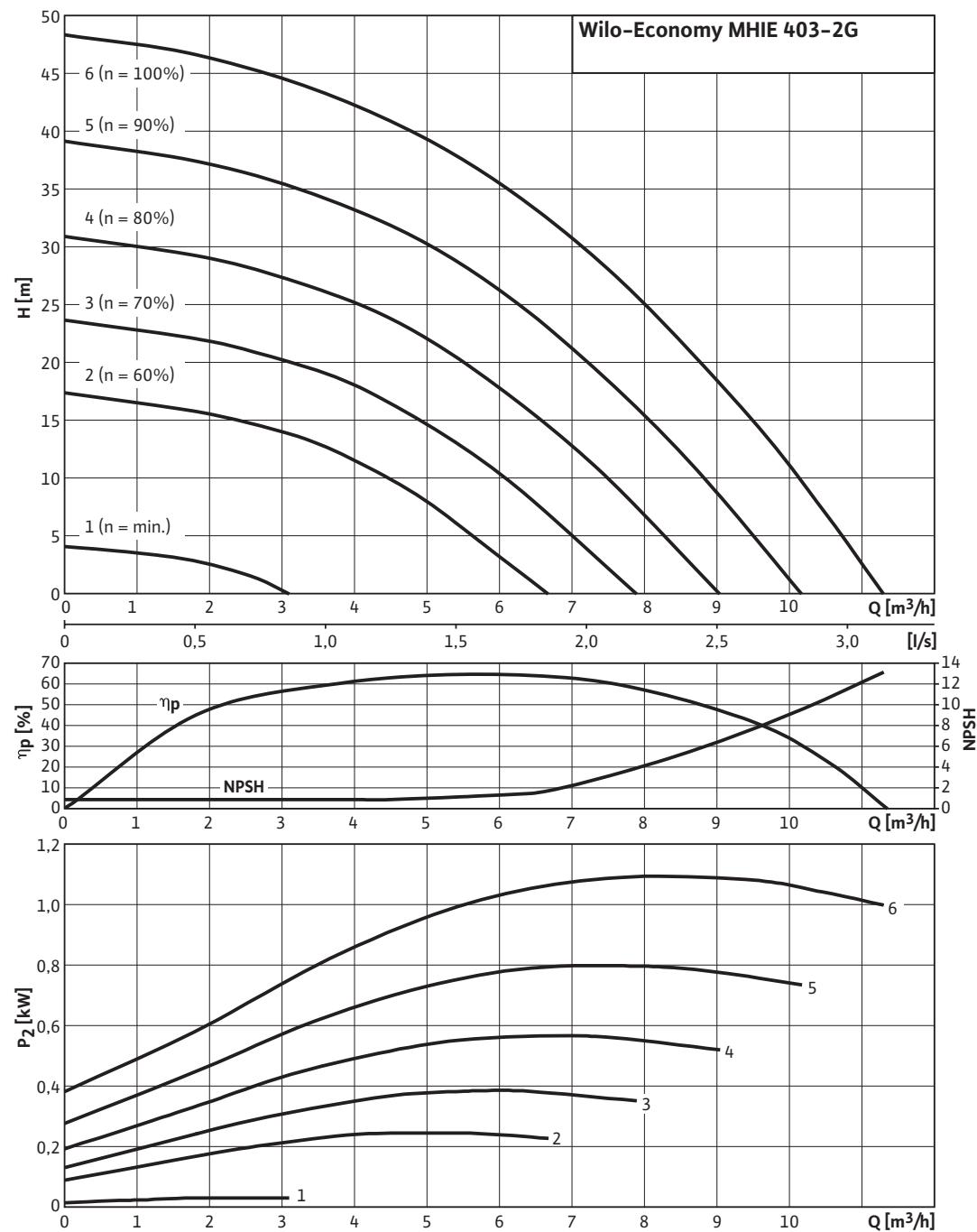
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHIE

#### Wilo-Economy MHIE 403-2G



Pump curves in accordance with ISO 9906, class 2

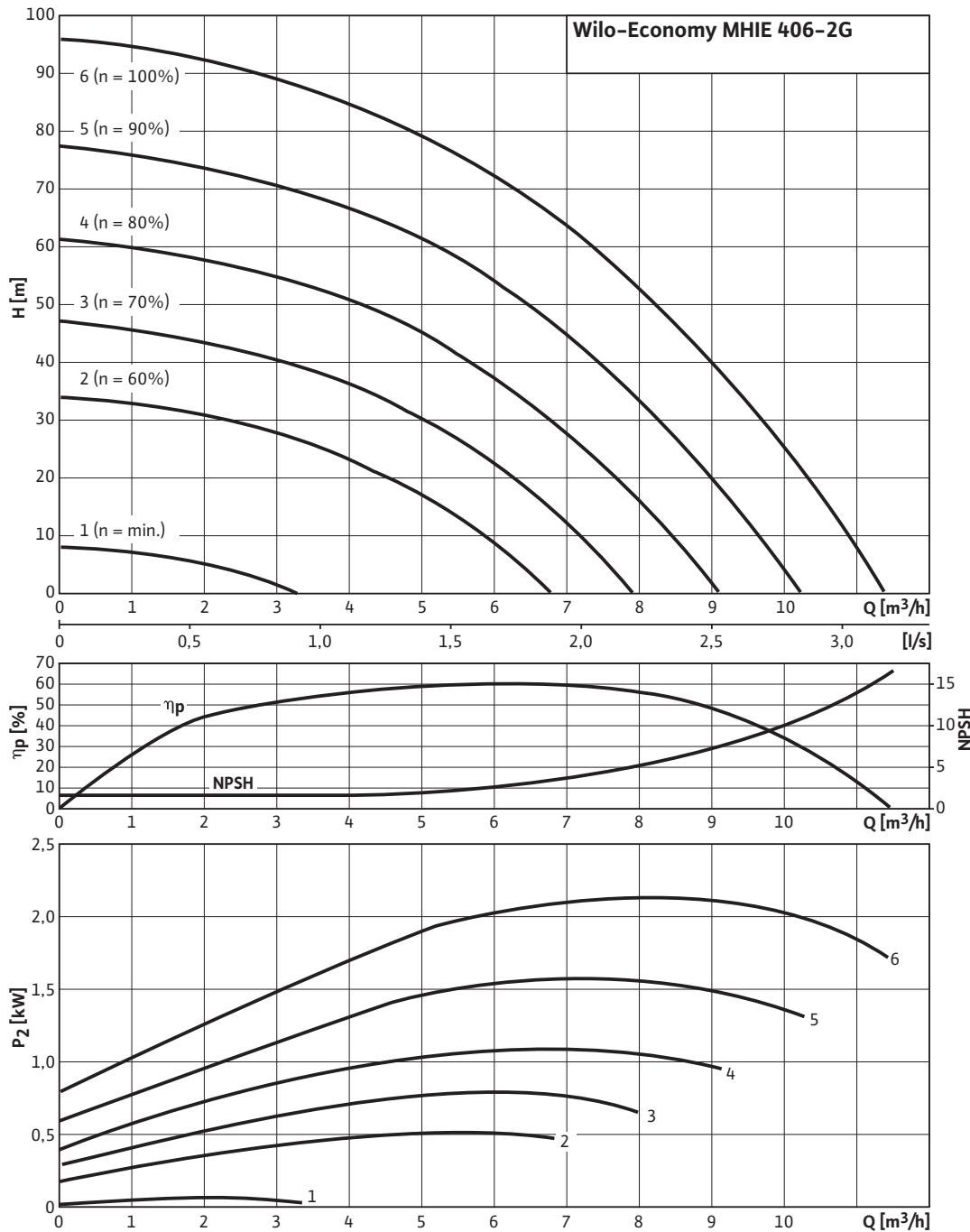
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Economy MHIE

### Wilo-Economy MHIE 406-2G



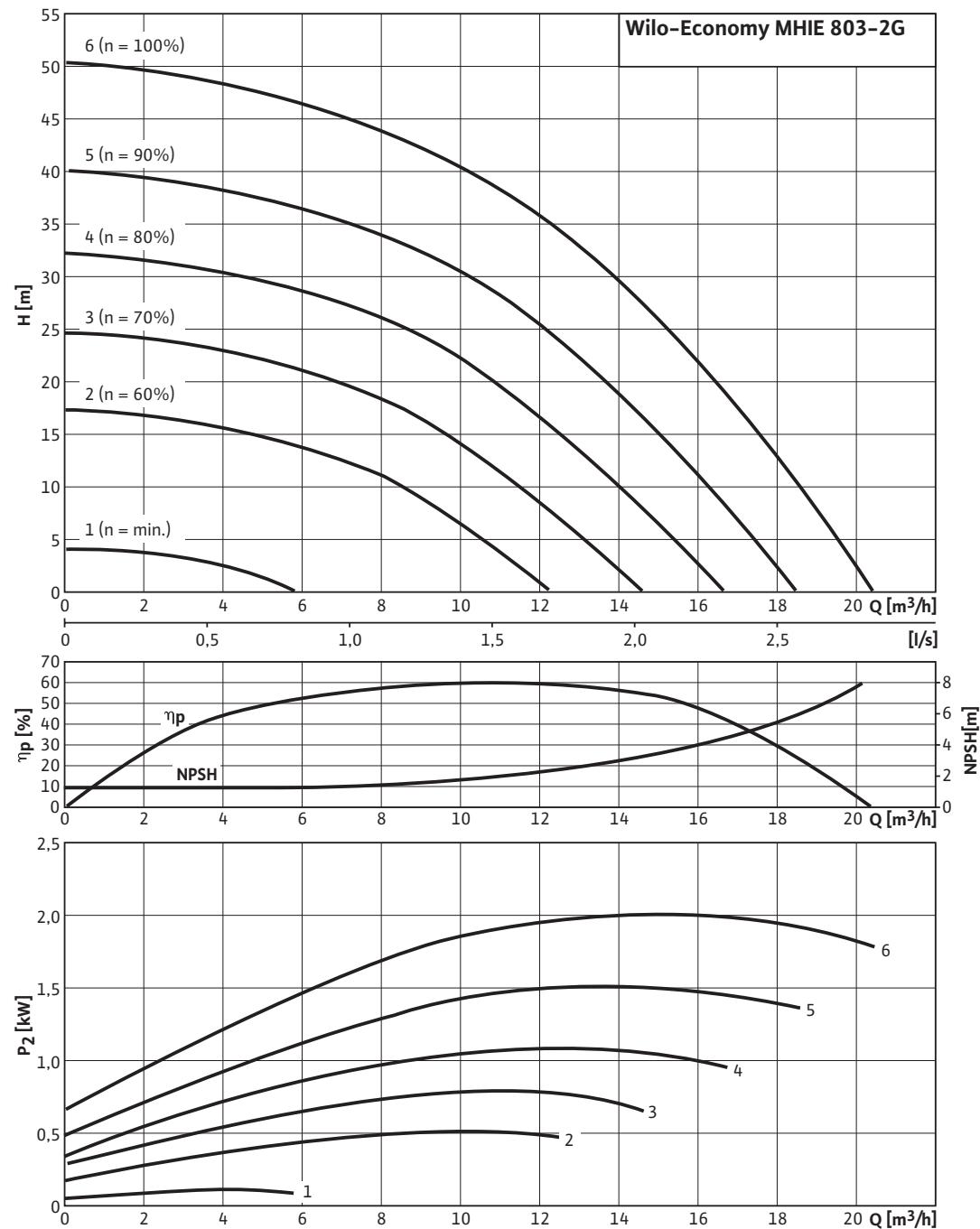
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHIE

#### Wilo-Economy MHIE 803-2G



Pump curves in accordance with ISO 9906, class 2

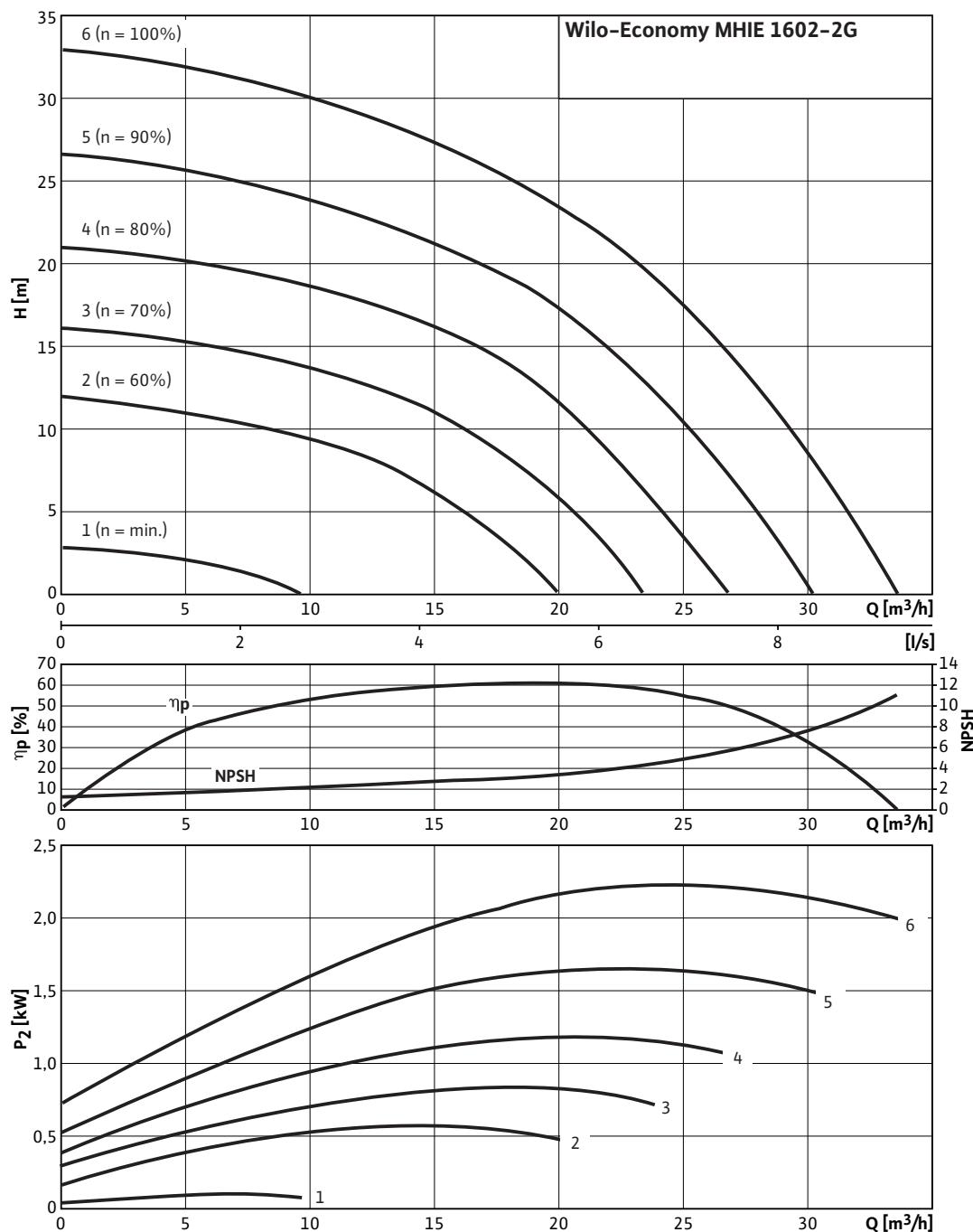
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Economy MHIE

Wilo-Economy MHIE 1602-2G



Pump curves in accordance with ISO 9906, class 2

Single pumps

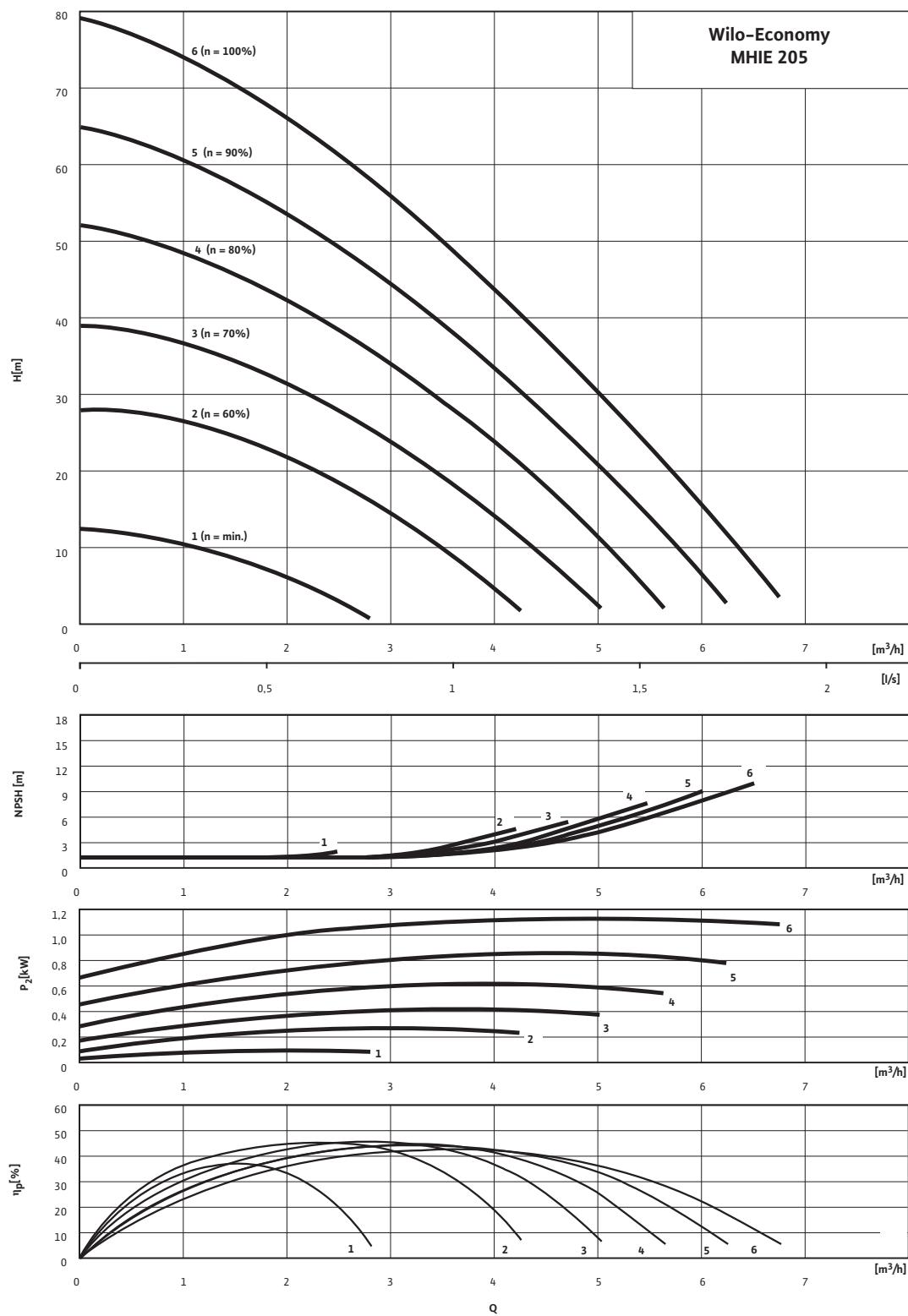
# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Economy MHIE

#### Wilo-Economy MHIE 205

1~230 V



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

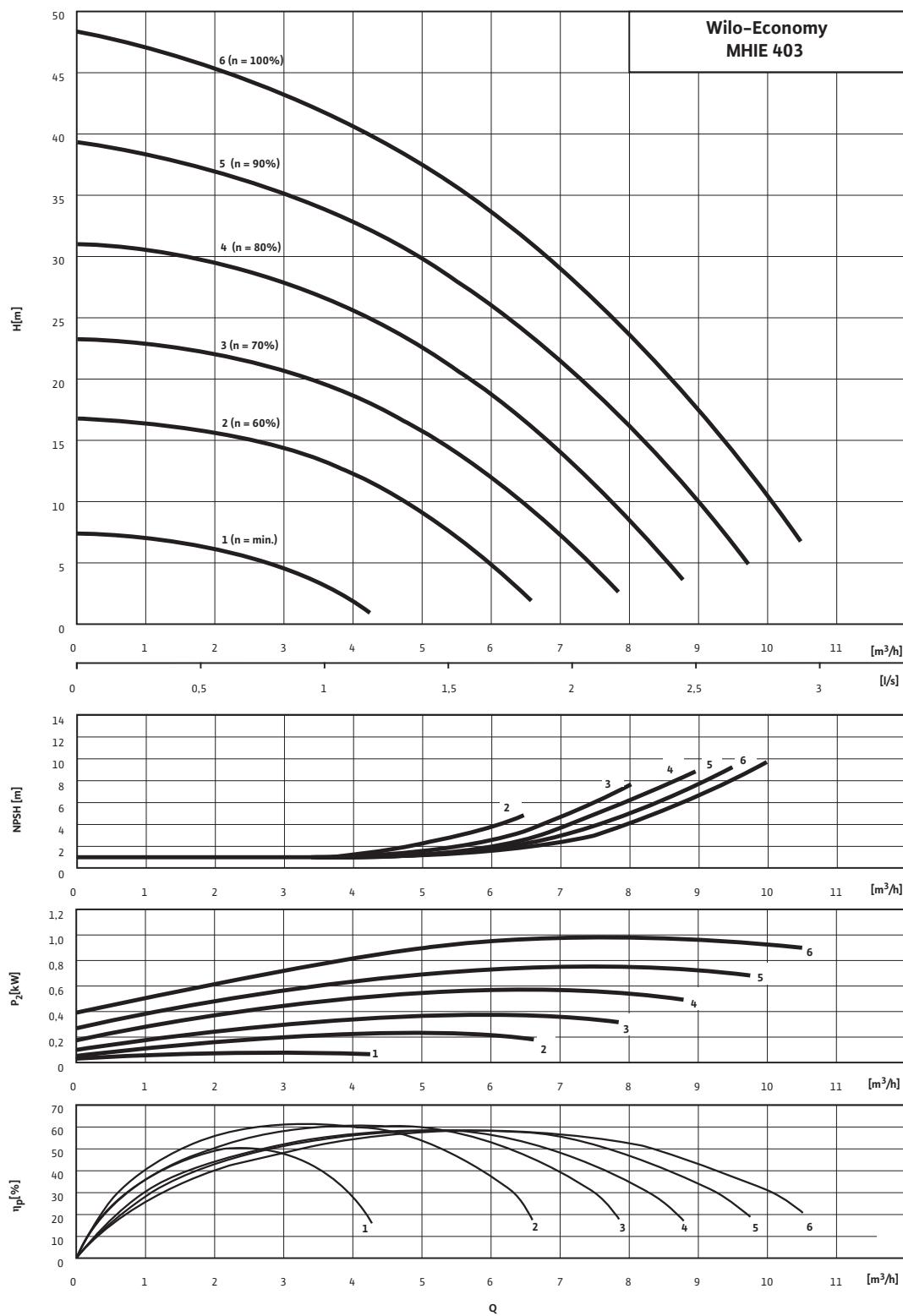
**WILO**

## Single pumps

### Pump curves Wilo-Economy MHIE

#### Wilo-Economy MHIE 403

1~230 V



Pump curves in accordance with ISO 9906, class 2

Single pumps

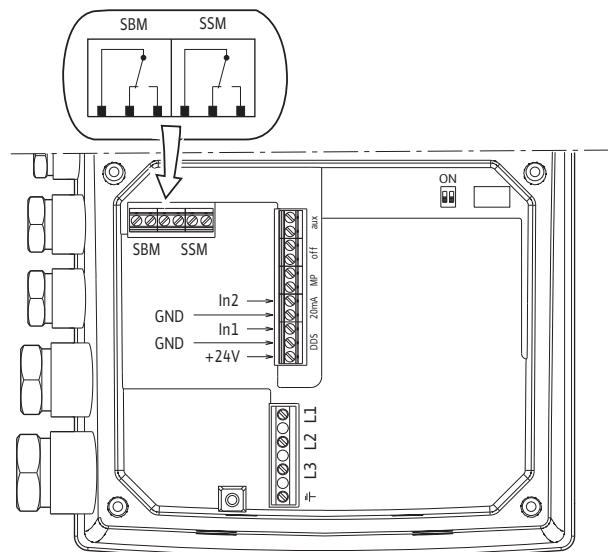
# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal Diagram, Motor Data Wilo-Economy MHIE

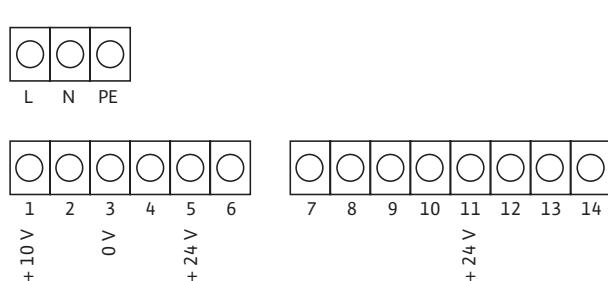
Terminal diagram

3~400 V ±7,5 kW



Terminal diagram

1~230 V



Motor data

Wilo Economy...	Netzfrequenz	Mains connection	Nominal power	Nominal motor power	Nominal current	
					1~230V, 50 Hz	3~230V/3~400V, 50 Hz
					f	[Hz]
<b>MHIE 205-2G</b>	50. 60	3~400 V	1.50	1.10	—	2.60 /3.20
<b>MHIE 403-2G</b>	50. 60	3~400 V	1.50	1.10	—	2.60 /3.20
<b>MHIE 406-2G</b>	50. 60	3~400 V	2.90	2.20	—	5.40 /6.30
<b>MHIE 803-2G</b>	50. 60	3~400 V	2.60	2.20	—	4.60 /5.40
<b>MHIE 1602-2G</b>	50. 60	3~400 V	2.90	2.20	—	5.40 /6.30
<b>MHIE 205 M1, M3</b>	50. 60	1~230 V	1.70	1.10	11.20	—
<b>MHIE 403 M1, M3</b>	50. 60	1~230 V	1.50	1.10	11.20	—

# High-pressure multistage centrifugal pumps

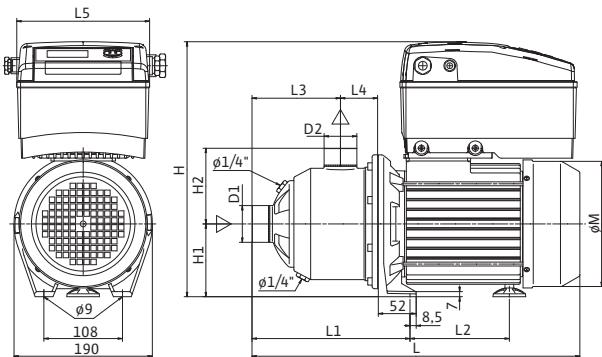
**WILO**

Single pumps

## Dimensions, weights Wilo-Economy MHIE

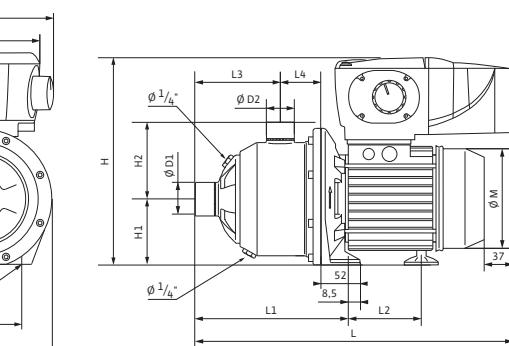
### Dimension drawing

Wilo-Economy MHIE ... -2G



### Dimension drawing

Wilo-Economy MHIE 205, MHIE 403



### Dimensions, weights

Wilo Economy...	Dimensions													Weight approx.
	$\varnothing D_1$	$\varnothing D_2$	L	$l_1$	$l_2$	$l_3$	$l_4$	$X_1$	X	H	$H_1$	$H_2$	$\varnothing M$	
	[Rp]													[kg]
MHIE 205-2G	1"	1"	448.0	252.0	103.5	157.5	51	198	158	317	90	104	154	14.6
MHIE 403-2G	1 1/4"	1"	400.0	204.0	103.5	109.5	51	198	158	317	90	104	154	14.6
MHIE 406-2G	1 1/4"	1"	511.0	276.0	136.5	181.5	51	222	182	344	100	104	172	21.5
MHIE 803-2G	1 1/2"	1 1/4"	451.0	216.0	136.5	121.5	51	222	182	344	100	104	172	19.7
MHIE 1602-2G	2"	1 1/2"	470.5	235.5	136.5	138.0	54	222	182	344	100	105	172	19.3
MHIE 205 M1, M3	1"	1"	460.0	252.0	87.5	157.5	51	150	180	284	90	104	155	17.2
MHIE 403 M1, M3	1 1/4"	1"	412.0	204.0	87.5	109.5	51	150	180	284	90	104	155	15.7

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Helix V



New!

#### Design

Non-self-priming, high-efficiency multistage high-pressure centrifugal pump in vertical design with inline connections

#### Application

- Water supply and pressure boosting
- Industrial circulation systems
- Process water
- Cooling water circuits
- Fire extinguishing systems
- Washing systems
- Irrigation

#### Type key

Example: **Helix V2202/2-3/16/E./.400-50**

<b>Helix V</b>	Vertical, multistage high-pressure centrifugal pump in inline design
<b>22</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>2</b>	Number of trimmed impellers (optional)
<b>3</b>	Pump material
2 =	pump base 1.4408 (AISI 316) hydraulics 1.4404 (AISI 316L)
3 =	pump base EN-GJL-250 (cataphoretic coating) hydraulics 1.4307 (AISI 304L)
<b>E</b>	Seal type E = EPDM V = FKM
<b>16</b>	Maximum operating pressure in bar optional
<b>..</b>	
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz

#### Special features/product benefits

- Efficiency-optimised, laser-welded 2D/3D high-efficiency hydraulics
- IEC standard motor, 3-phase, 2-pole
- Easy pump replacement without pipe modification. Due to the modular pump housing, HELIX pumps can be installed in existing pipes.
- Easy-to-use mechanical seal with cartridge, equipped with a standard seal for easy maintenance.
- The spacer coupling enables the fast and easy replacement of the motor (from 5.5 kW and higher)
- The new flexible lantern design, which is available in two alignments, enables direct access to the mechanical seal.

- Potable water approval according to ACS/KTW/WRAS for all parts that come in contact with the fluid

#### Equipment/function

- Corrosion-resistant impellers, guide wheels and stage housing

#### Technical data

- Electrical connection: 3~ 400 V 50 Hz
- Fluid temperature: -20 to 120 °C
- Maximum operating pressure: 16/25 bar
- Protection class IP 55
- Ambient temperature: max. +40°C (extended temperature ranges on request)
- Available designs: PN 16 and PN 25 with loose round flanges in accordance with ISO 2531 and ISO 7005

#### Materials

- Impellers, guide wheels, stage housing made of stainless steel 1.4307
- Pump housing made of cataphoretically coated cast iron EN-GJL 250
- Shaft made of stainless steel 1.4057
- Shaft protection sleeve 1.4404
- O-ring made of EPDM EP856 (FKM seal on request)
- Shaft protection sleeve made of 1.4301

#### Scope of delivery

- Multistage high-pressure centrifugal pump
- Screws, nuts and seals for fixation of the counter flange
- Installation and operating instructions

# High-pressure multistage centrifugal pumps



## Single pumps

### Overview of versions Wilo-Helix V

Wilo-Helix V	
<b>Materials</b>	
Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4307/1.4404 (AISI 304L/316L)	•
Impellers, guide wheels and stage housing made of stainless steel 1.4307 (AISI 304L)	•
<b>Seal version</b>	
Seal	EPDM/FKM (Viton optional)
<b>Hydraulic connection</b>	
Threaded connection	-
Oval flange	-
Loose flange (round)	•
Victaulic quick coupling	-
<b>Motor version</b>	
Individual motors	optional
3~230 V, 50 Hz	• up to $P_2 = 4 \text{ kW}$
3~400 V, 50 Hz	•
3~500 V, 50 Hz	-
3~380 V, 60 Hz	optional
3~400 V, 60 Hz	optional
3~440 V, 60 Hz	optional
3~460 V, 60 Hz	optional
3~480 V, 60 Hz	optional
3~380 V to 440 V and 50 Hz to 60 Hz	optional
Protection class	IP 55
Explosion protection	optional
Motors with PTC thermistors	optional
Speed can be controlled via external FC	-
Integrated frequency converter	-
<b>Painting</b>	
Individual painting	•
<b>Mechanical seal</b>	
Tungsten carbide/carbon	• (25 bar)
SIC/carbon	• (16 bar)
Tungsten carbide/tungsten carbide	optional
SIC/SIC	optional

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Helix V

#### Wilo-Helix V

##### Potable water approvals

KTW	•
WRAS	•
ACS	•

• = available, - = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Technical data Wilo-Helix V

#### Wilo-Helix V ...

##### Approved fluids

Potable water, heating water, process water	•
Condensate	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•

##### Power

Max. volume flow [m <sup>3</sup> /h]	35.0
Max. delivery head [m]	66
Fluid temperature	20 °C ... 120 °C
Max. ambient temperature	40
Operating pressure	16/25
Inlet pressure	10
Nominal speed	2900

##### Motor

Mains connection 1~ (permitted voltage tolerance +/- 10%)	-
Mains connection 3~ (permitted voltage tolerance +/- 10%)	•
Insulation class	F
Radio shielding degree	-
Protection class	IP 55

##### Connections

Nominal diameter of pipe connections on suction side	-
Nominal diameter of pipe connections on pressure side	-
Flange connections PN 16/PN 25	-
Vicatualic connections	-

##### Materials

Impeller (standard)	1.4307
Stage chambers	1.4307
Pump housing	EN-GJL-250
Pump shaft	1.4057
Seal	EPDM/FKM (Viton optional)
Mechanical seal	EPDM
Pressure shroud	1.4301
Bearing	Tungsten carbide/ceramic
Pump base	EN-GJL-250 (cataphoretically coated)

• = available, - = not available

##### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

##### Note on materials

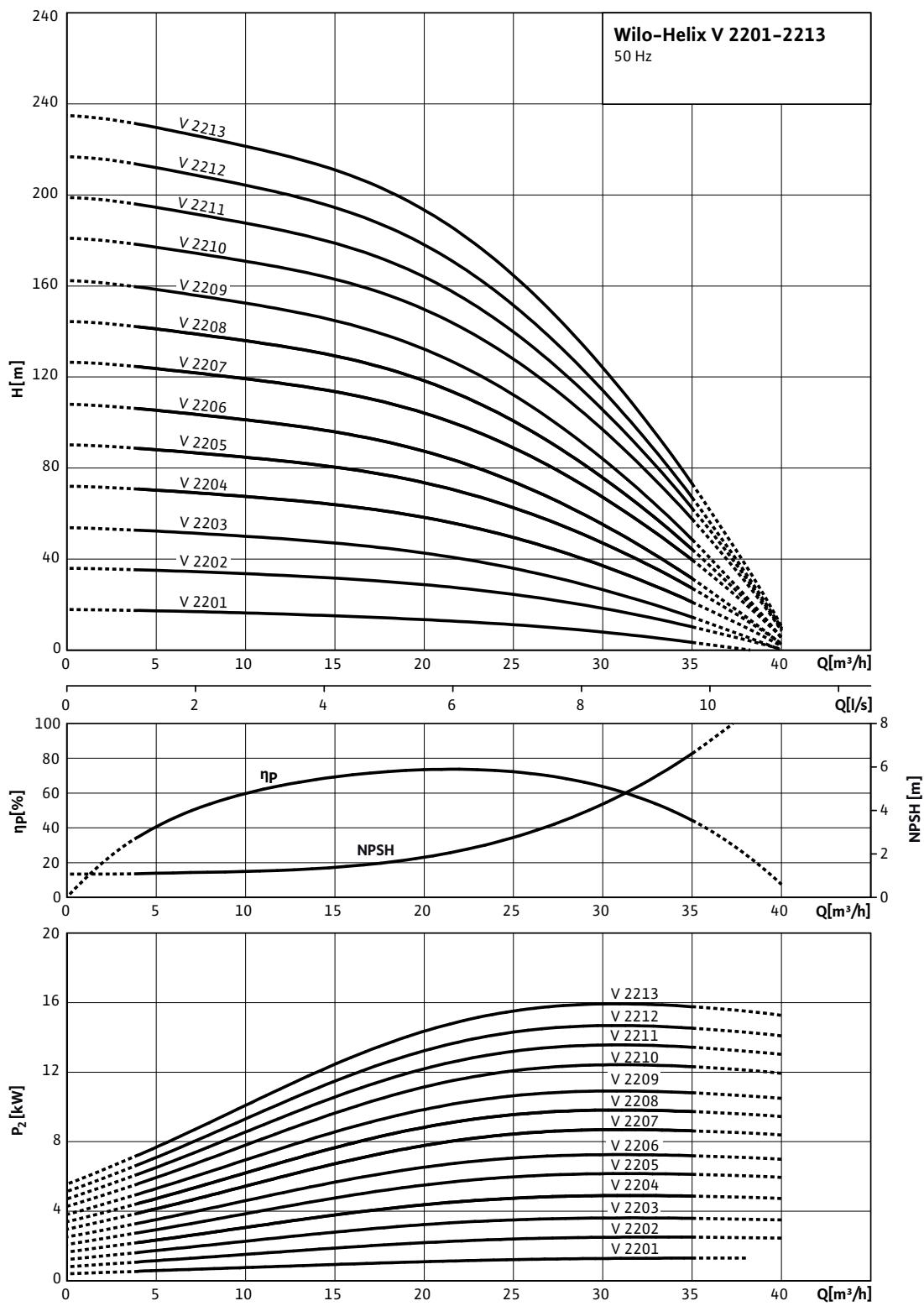
1.4307 corresponds to AISI 304L, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Helix V

Wilo-Helix V 2201 to 2213



Pump curves in accordance with ISO 9906, class 2

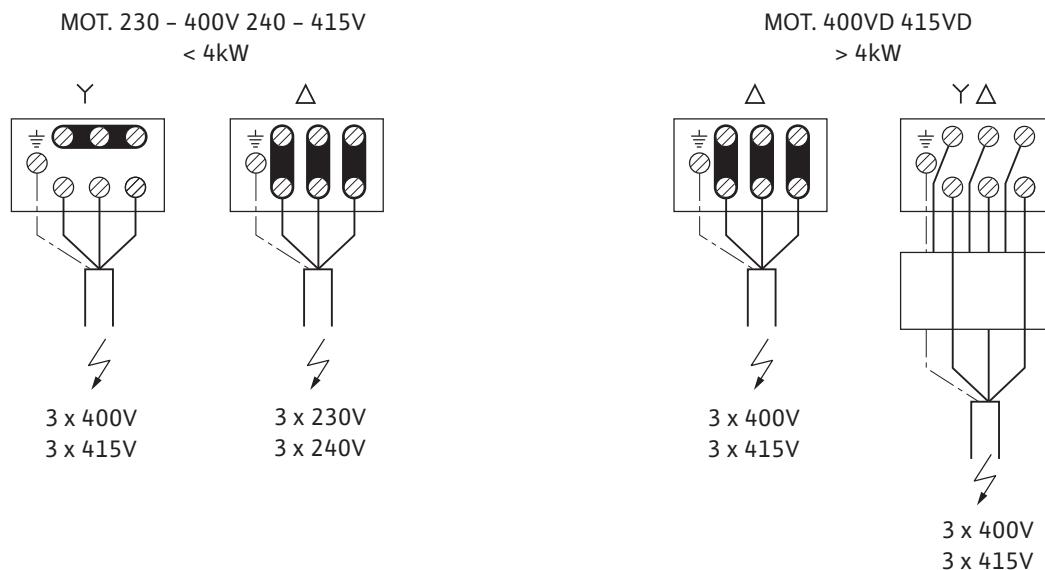
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Terminal diagram, motor data Wilo-Helix V

### Terminal diagram



### Motor data

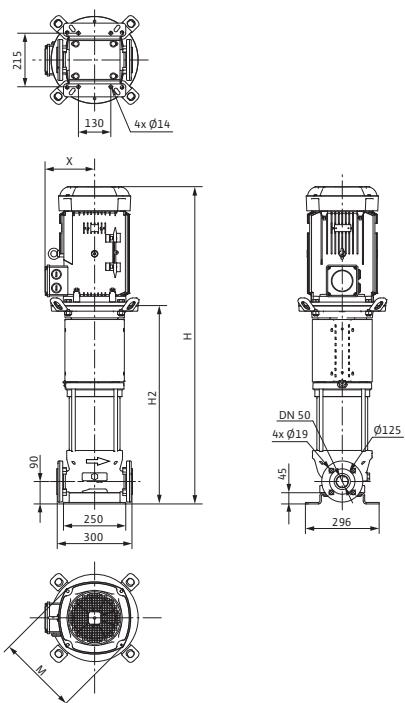
Wilo Helix...	Nominal motor power		Nominal current	
	$P_2$ [kW]	$I_N$ (1~230 V, 50 Hz)	$I_N$ (3~400 V, 50 Hz)	
		[A]	[A]	
Helix V 2201	1.50	5.37		3.1
Helix V 2202	3.00	10.00		5.8
Helix V 2203	4.00	7.50		4.3
Helix V 2204	5.50	–		10.1
Helix V 2205	7.50	–		13.5
Helix V 2206	7.50	–		13.5
Helix V 2207	9.00	–		16.3
Helix V 2208	11.00	–		20
Helix V 2209	11.00	–		20
Helix V 2210	15.00	–		26.2
Helix V 2211	15.00	–		26.2
Helix V 2212	15.00	–		26.2
Helix V 2213	18.50	–		32

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Helix V

#### Dimension drawing



#### Dimensions, weights – Version PN 16

Wilo Helix...	Dimensions				Weight approx. m [kg]
	H	H <sub>2</sub>	Ø M	X	
	[mm]				
Helix V 2201	807	541	193	132	60
Helix V 2202	843	551	217	141	74
Helix V 2203	936	601	232	149	81
Helix V 2204	1127	767	279	182	111
Helix V 2205	1212	817	279	182	119
Helix V 2206	1262	867	279	182	121
Helix V 2207	1312	917	279	182	123
Helix V 2208	1473	997	323	200	156

# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Dimensions, weights Wilo-Helix V

Dimensions, weights – Version PN 25

Wilo Helix...	Dimensions				Weight approx.
	H	H <sub>2</sub>	Ø M	X	
	[mm]				[kg]
Helix V 2204	1127	767	279	182	111
Helix V 2205	1212	817	279	182	119
Helix V 2206	1262	867	279	182	121
Helix V 2207	1312	917	279	182	123
Helix V 2208	1473	997	323	200	156
Helix V 2209	1523	1047	323	200	158
Helix V 2210	1573	1097	323	200	171
Helix V 2211	1623	1147	323	200	173
Helix V 2212	1673	1197	323	200	175
Helix V 2213	1723	1247	323	200	187

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Helix VE



#### Design

Non-self-priming, high-efficiency vertical version high-pressure multistage centrifugal pump with in-line connections and integrated, air-cooled frequency converter

- Easy-to-use mechanical seal with cartridge, equipped with a standard seal for easy maintenance.
- Potable water approval according to ACS/KTW/WRAS for all parts that come in contact with the fluid

#### Application

- Water supply and pressure boosting
- Industrial circulation systems
- Process water
- Cooling water circuits
- Washing systems
- Irrigation

#### Equipment/function

- Integrated frequency converter, motor temperature monitoring and overload protection
- Corrosion-resistant impellers, guide wheels and stage housing

#### Type key

Example: **Helix VE2203-1/16/E/3-2-2G**

**Helix VE** Vertical, multistage high-pressure centrifugal pump in inline design (electronically controlled)

**22** Volume flow in m<sup>3</sup>/h

**03** Number of impellers

**1** Pump material

1 = pump base 1.4301 (AISI 304)  
hydraulics 1.4301 (AISI 304)

2 = pump base 1.4408 (AISI 316)  
hydraulics 1.4404 (AISI 316L)

3 = pump base EN-GJL-250 (cataphoretic coating)  
hydraulics 1.4307 (AISI 304L)

**16** Maximum operating pressure in bar

**E** Seal type  
E = EPDM  
V = FKM

**3** 3~

**2** 2-pole

**2G** Frequency converter, second generation

#### Technical data

- Electrical connection: 3~ 380–400V 50 & 60 Hz
- Fluid temperature: -20 to 120 °C
- Maximum operating pressure: 16/25 bar
- Protection class IP55 ( $\geq 11\text{kW}$ : IP 54)
- Ambient temperature: max. +50°C ( $\geq 11\text{kW}$ : max. +50°C)
- Available designs: PN16 and PN25 with round loose flanges in accordance with ISO 2531 and ISO 7005

#### Scope of delivery

- Multistage high-pressure centrifugal pump with frequency converter
- Screws, nuts and seals for fixation of the counter flange
- Installation and operating instructions

#### Special features/product benefits

- Efficiency-optimised, laser-welded 2D/3D high-efficiency hydraulics
- Integrated frequency converter with wide control range
- The spacer coupling enables the fast and easy replacement of the motor (from 5.5 kW and higher)
- The new flexible lantern design, which is available in two alignments, enables direct access to the mechanical seal.
- Easy pump replacement without pipe modification. Due to the modular pump housing, HELIX pumps can be installed in existing pipes.

# High-pressure multistage centrifugal pumps



## Single pumps

### Overview of versions Wilo-Helix VE

Wilo-Helix VE	
<b>Materials</b>	
Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4307/1.4404 (AISI 304L/316L)	•
Impellers, guide wheels and stage housing made of stainless steel 1.4307 (AISI 304L)	•
<b>Seal version</b>	
Seal	EPDM/Viton optional
<b>Hydraulic connection</b>	
Threaded connection	-
Oval flange	-
Loose flange (round)	•
Victaulic quick coupling	-
<b>Motor version</b>	
Individual motors	optional
3~230 V, 50 Hz	• up to $P_2 = 4 \text{ kW}$
3~400 V, 50 Hz	•
3~500 V, 50 Hz	-
3~380 V, 60 Hz	-
3~400 V, 60 Hz	-
3~440 V, 60 Hz	-
3~460 V, 60 Hz	-
3~480 V, 60 Hz	-
3~380 V to 440 V and 50 Hz to 60 Hz	-
Protection class	IP 55
Explosion protection	optional
Motors with PTC thermistors	-
Speed can be controlled via external FC	-
Integrated frequency converter	-
<b>Painting</b>	
Individual painting	•
<b>Mechanical seal</b>	
Tungsten carbide/carbon	•
SIC/carbon	• -
Tungsten carbide/tungsten carbide	optional
SIC/SIC	optional

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Helix VE

Wilo-Helix VE	
<b>Potable water approvals</b>	
KTW	-
WRAS	-
ACS	•

• = available, - = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Technical data Wilo-Helix VE

	Wilo-Helix VE ...	
	2203-2205	2207-2209
<b>Approved fluids</b>		
Potable water, heating water, process water	•	•
Condensate	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•
<b>Power</b>		
Max. volume flow [m <sup>3</sup> /h]	35.0	35.0
Max. delivery head [m]	237	237
Fluid temperature	20 °C ... 120 °C	20 °C ... 120 °C
Max. ambient temperature	40	40
Operating pressure	16/25	16/25
Inlet pressure	10	10
Nominal speed	2900	2900
<b>Motor</b>		
Mains connection 1~ (permitted voltage tolerance +/- 10%)	-	-
Mains connection 3~ (permitted voltage tolerance +/- 10%)	•	-
Insulation class	F	F
Radio shielding degree	-	-
Protection class	IP 54	IP 54
<b>Connections</b>		
Nominal diameter of pipe connections on suction side	-	-
Nominal diameter of pipe connections on pressure side	-	-
Flange connections PN 16/PN 25	•	•
Vicatulic connections	-	-
<b>Materials</b>		
Impeller (standard)	1.4307	
Stage chambers	1.4307	
Pump housing	EN-GJL-250	
Pump shaft	1.4057	
Seal	EPDM/Viton optional	
Mechanical seal	EPDM	
Pressure shroud	1.4301	

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Helix VE

	Wilo-Helix VE ...	
	2203-2205	2207-2209
Bearing	Tungsten carbide/ceramic	
Pump base	EN-GJL-250	

• = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4307 corresponds to AISI 304L, 1.4404 corresponds to AISI 316L.

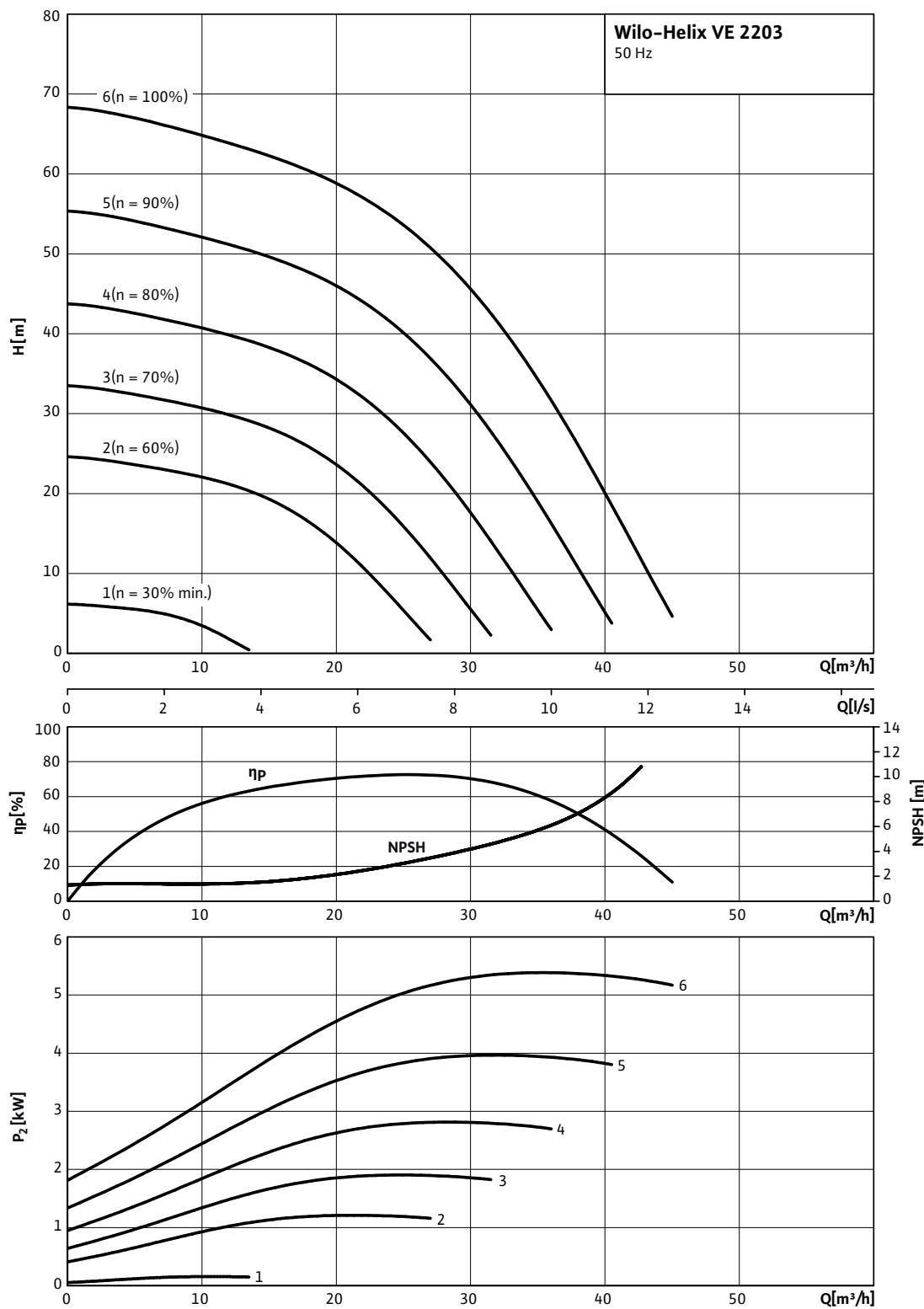
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Helix VE

### Wilo-Helix VE 2203



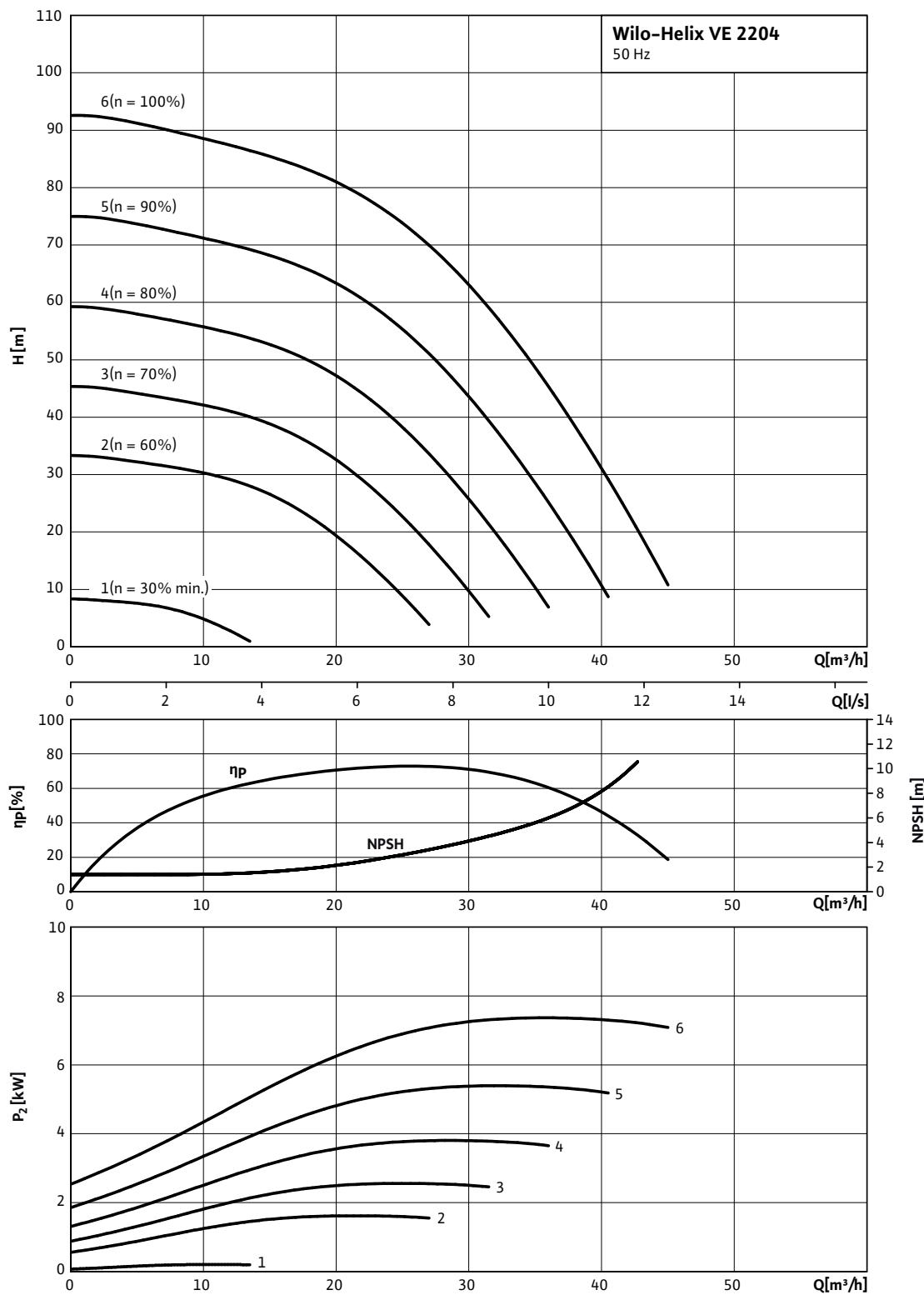
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Helix VE

Wilo-Helix VE 2204



Pump curves in accordance with ISO 9906, class 2

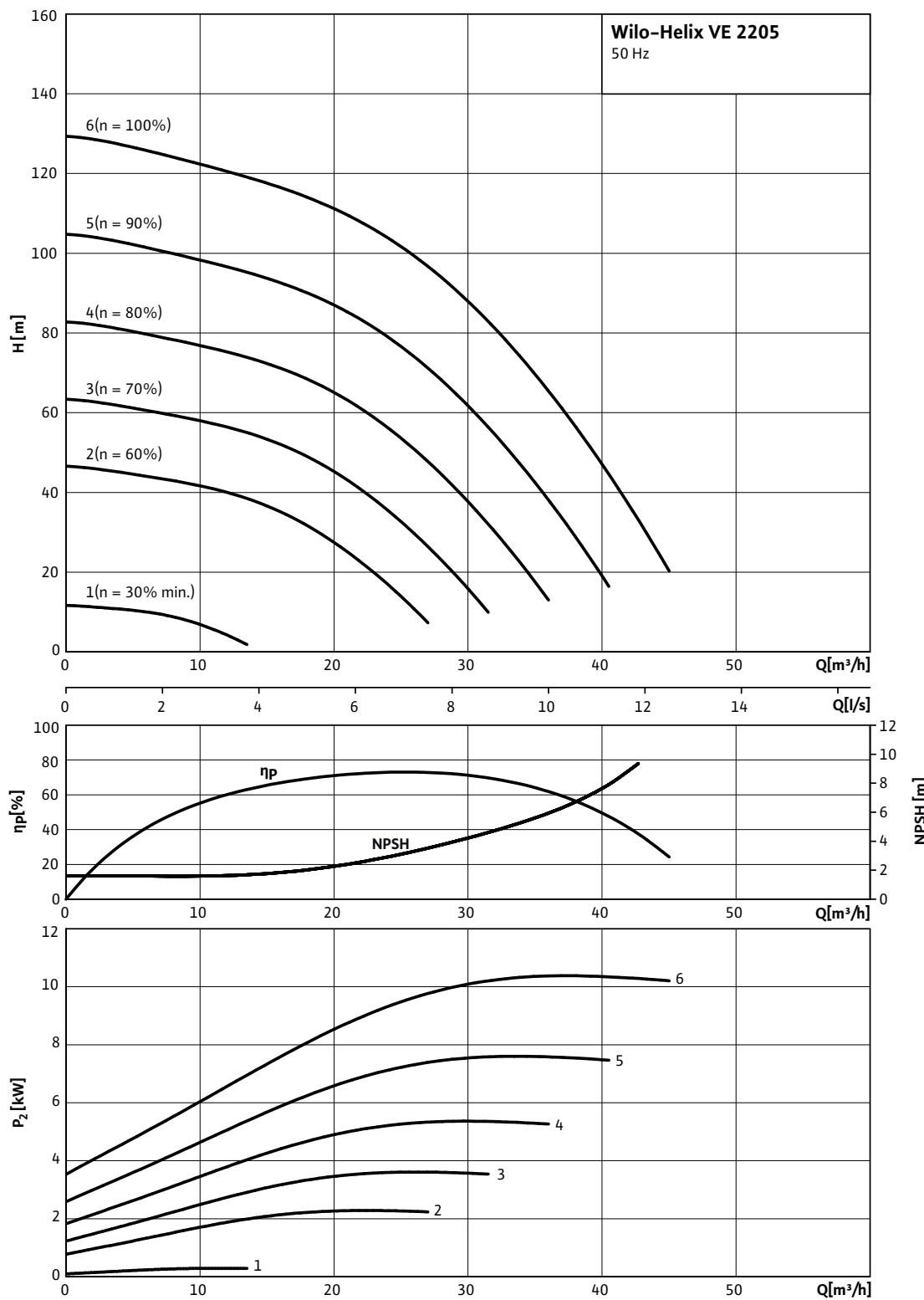
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Helix VE

### Wilo-Helix VE 2205



Pump curves in accordance with ISO 9906, class 2

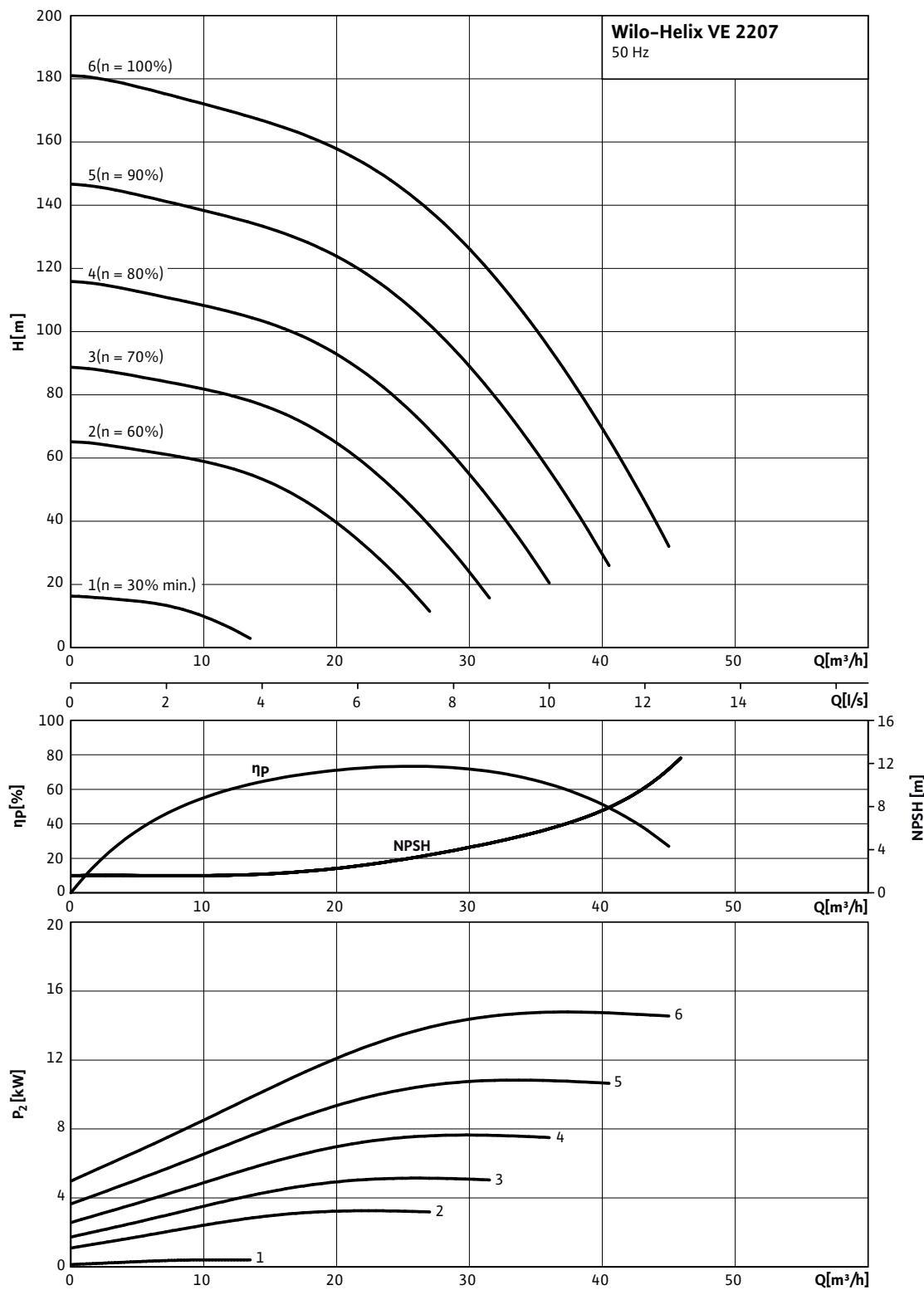
Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Helix VE

Wilo-Helix VE 2207



Pump curves in accordance with ISO 9906, class 2

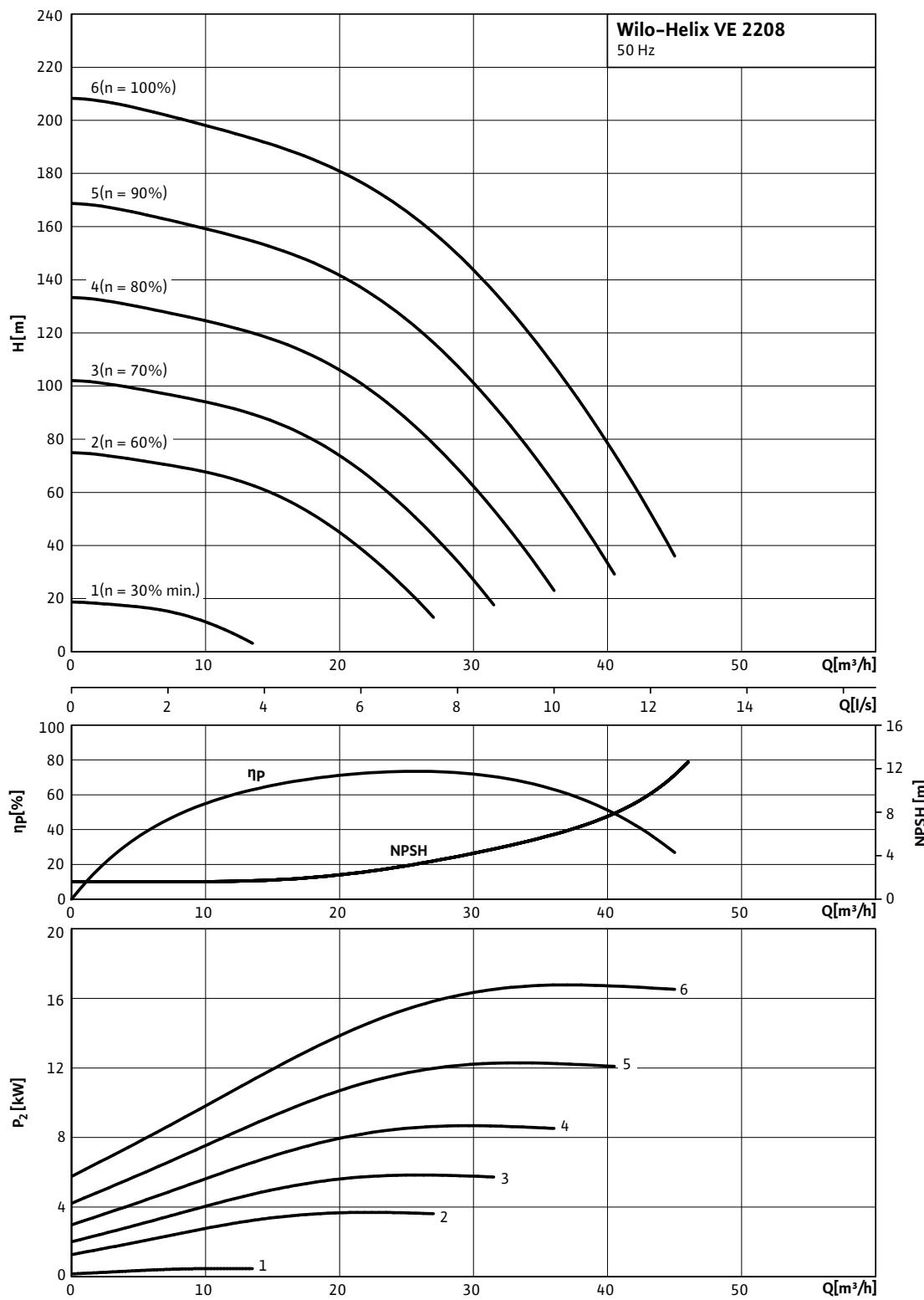
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Helix VE

### Wilo-Helix VE 2208



Pump curves in accordance with ISO 9906, class 2

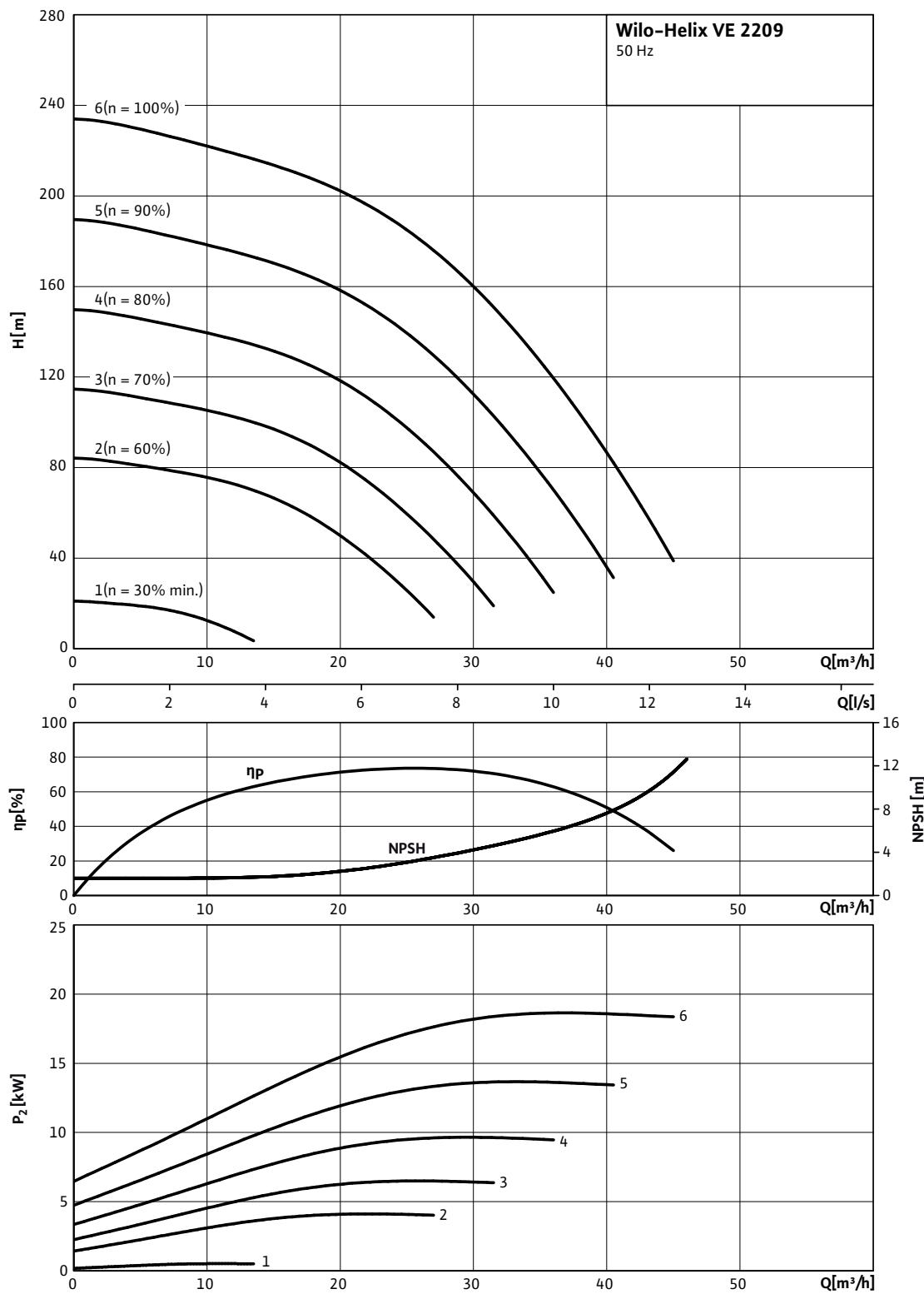
Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Helix VE

Wilo-Helix VE 2209



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

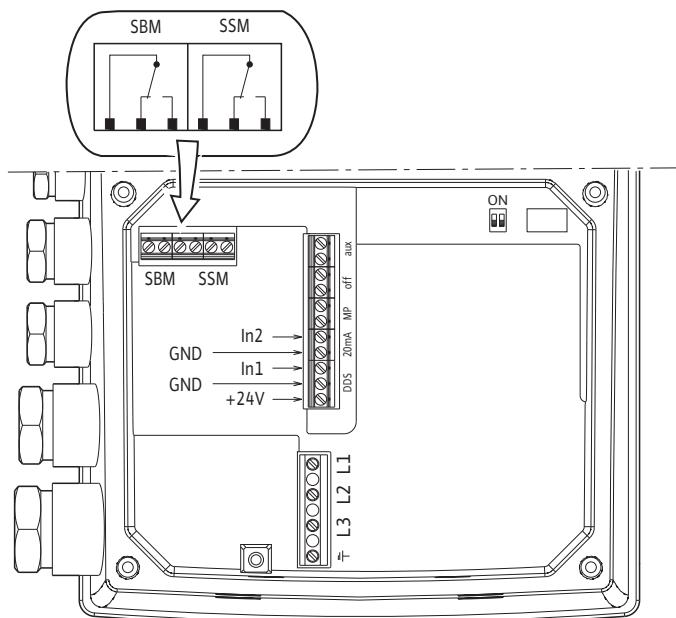
**WILO**

Single pumps

## Terminal diagram, motor data Wilo-Helix VE

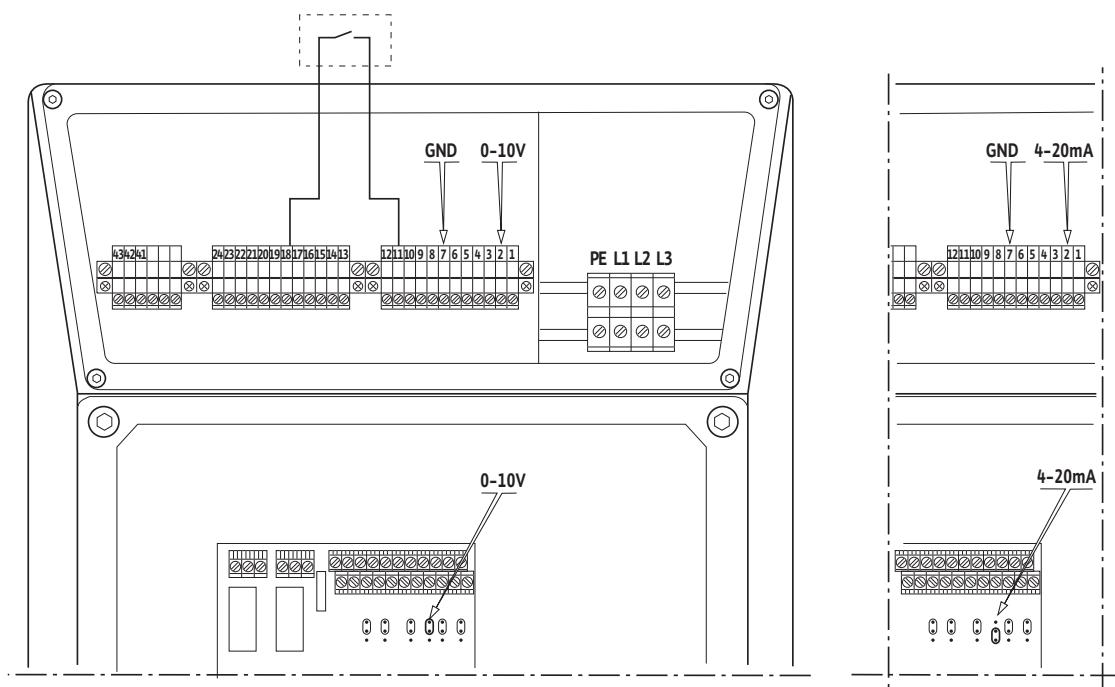
### Terminal diagram

3~400 V ≤ 7,5 kW



### Terminal diagram

3~400 V ≥ 11 kW



Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Helix VE

Motor data			
Wilo Helix...	Nominal motor power	Nominal current	
	P <sub>2</sub> [kW]	I <sub>N</sub> (1~230 V, 50 Hz)	I <sub>N</sub> (3~400 V, 50 Hz) [A]
Helix VE 2203	5.50	—	—
Helix VE 2204	7.50	—	—
Helix VE 2205	11.00	—	—
Helix VE 2207	15.00	—	—
Helix VE 2208	18.50	—	—
Helix VE 2209	22.00	—	—

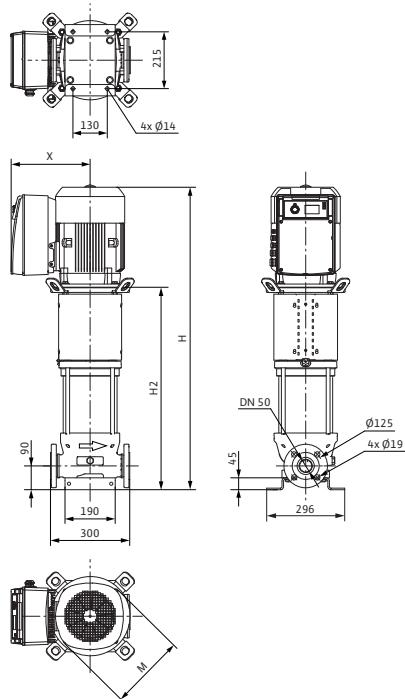
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Dimensions, weights Wilo-Helix VE

#### Dimension drawing



#### Dimensions, weights – Version PN 16

Wilo Helix...	Dimensions				Weight approx.
	H	H <sub>2</sub>	X	Ø M	
	[mm]				
Helix VE 2203	1097.00	717.00	296.00	262.00	124.0
Helix VE 2204	1147.00	767.00	296.00	262.00	125.0
Helix VE 2205	1296.00	847.00	335.00	258.00	201.0

#### Dimensions, weights – Version PN 25

Wilo Helix...	Dimensions				Weight approx.
	H	H <sub>2</sub>	X	Ø M	
	[mm]				
Helix VE 2207	1408.00	947.00	365.00	313.00	241.0
Helix VE 2208	1496.00	997.00	350.00	313.00	267.0
Helix VE 2209	1572.00	1047.00	365.00	351.00	297.0

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Multivert MVI



#### Design

Non-self-priming multistage pump

#### Application

- Water supply and pressure boosting
- Fire extinguishing systems
- Boiler feed
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems

#### Type key

MVI 1..  
to MVI 52..

Example: **MVI 1602CN/6-1/16/E/3-400-50-2**

<b>MVI</b>	Multistage vertical high-pressure centrifugal pump
<b>16</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>C</b>	<b>Option:</b> C = mechanical seal with cartridge
<b>N</b>	Standardised motor
<b>6</b>	Only with MVI 16..: 6 = 6" hydraulics - = 8" hydraulics
<b>1</b>	Material 1 = 1.4301 (AISI 304) 2 = 1.4404 (AISI 316L) 3 = pump base EN-GJL-250 (cataphoretic coating), hydraulics 1.4301 (AISI 304)
<b>16</b>	Flange type 16 = flange PN16 (round or oval) 25 = flange PN25 (round or oval) P = Victaulic coupling
<b>E</b>	Seal type E = EPDM V = Viton
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

#### MVI 70.. to MVI 95..

Example:

**MVI 7002/1N/16/E/3-400-50-2**

<b>MVI</b>	Multistage vertical high-pressure centrifugal pump
<b>70</b>	Volume flow in m <sup>3</sup> /h
<b>1</b>	Number of trimmed impellers
<b>N</b>	Standardised motor
<b>16</b>	Flange type 16 = flange PN16 (round or oval) 25 = flange PN25 (round or oval) P = Victaulic coupling
<b>E</b>	Seal type E = EPDM V = Viton
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

#### Special features/product benefits

- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- All relevant components are KTW- and WRAS-certified
- Drive via IEC standard motors

#### Equipment/function

- Stainless steel pump in inline design
- Version: PN16 with oval flange; PN25 with round flange (optionally with Victaulic connection)
- IEC standard motor

#### Technical data

- Mains connection 1~230 V / 50 Hz or optionally 220 V / 60 Hz (up to 1.5 kW)
- Mains connection 3~230 V / 50 Hz ( $\Delta$ ) or optionally 220V / 60 Hz ( $\Delta$ ) up to 4.0 kW, 400 V / 50 Hz (Y) or optionally 380 V / 60 Hz (Y) from 4.0 kW and higher
- Fluid temperature -15 to +120 °C
- Max. operating pressure 16/25 bar
- Max. inlet pressure 10 bar
- Protection class IP 55
- Flange connection G1/DN 25
- Optionally with Victaulic connections

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series description Wilo-Multivert MVI

#### Materials

- Impellers and stage chambers stainless steel 1.4301/1.4404 (MVI 16-6 only in 1.4301)
- Pump housing stainless steel 1.4301 / 1.4404
- Shaft, depending on type, stainless steel 1.4301 / 1.4404
- Seal EPDM (EP 851) / Viton
- Housing cover stainless steel 1.4301 / 1.4404
- Lower housing section stainless steel 1.4301 / 1.4404
- Mechanical seal B-carbon/tungsten carbide, SiC/carbon
- Pressure shroud stainless steel 1.4301 / 1.4404
- Bearing tungsten carbide
- Pump base EN-GJL-250

#### Scope of delivery

- Pump
- Oval counter flanges Rp 1 to Rp 1 1/2 (only with PN 16 version)
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo Multivert MVI

	Wilo-Multivert MVI...		
	1/2/4/8/16-6	16/32/52	32..C/52..C/70/95
<b>Materials</b>			
Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	-	•	•
Parts in contact with fluid in 1.4301 (AISI 304)	•	-	•
Parts in contact with fluid in 1.4404 (AISI 316L)	•	•	-
<b>Seal version</b>			
Seal	EPDM/Viton	EPDM/Viton	EPDM
<b>Hydraulic connection</b>			
Threaded connection	-	-	-
Oval flange	•	-	-
Round flange	•	•	•
Victaulic quick coupling	•	-	-
<b>Motor version</b>			
Individual motors	optional	optional	optional
1~230 V, 50 Hz	• (up to $P_2 = 1.5 \text{ kW}$ )	-	-
3~230 V, 50 Hz	optional	optional	optional
3~400 V, 50 Hz	•  (up to $P_2 = 4 \text{ kW}$ for 230/400 V; from $P_2 = 5.5 \text{ kW}$ and higher only 400 V $\Delta$ )	•	•
3~500 V, 50 Hz	optional	optional	optional
1~110 V, 60 Hz	optional	-	-
1~220 V, 60 Hz	optional	-	-
3~380 V, 60 Hz	optional	optional	optional
3~400 V, 60 Hz	optional	optional	optional
3~440 V, 60 Hz	optional	optional	optional
3~460 V, 60 Hz	optional	optional	optional
3~480 V, 60 Hz	optional	optional	optional
3~380 V to 440 V and 50 Hz to 60 Hz	-	-	-
Protection class	IP 55	IP 55	IP 55
Explosion protection	optional	optional	optional
Motors with PTC thermistors	optional	optional	optional
Motors with UL certificates	optional	optional	optional
Motors with CSA certificates	optional	optional	optional
Thermal motor protection switch	• optional (up to and including $P_2 = 1.5 \text{ kW}$ )	-	-
Speed can be controlled via external FC	•	•	•

# High-pressure multistage centrifugal pumps



Single pumps

## Overview of versions Wilo Multivert MVI

	Wilo-Multivert MVI...		
	1/2/4/8/16-6	16/32/52	32..C/52..C/70/95
Integrated frequency converter	-	-	-
<b>Painting</b>			
Individual painting	optional	optional	optional
<b>Mechanical seal</b>			
Tungsten carbide/carbon	•	•	•
SIC/carbon	optional	optional	optional
Tungsten carbide/tungsten carbide	optional	optional	optional
SIC/SIC	optional	optional	optional
<b>Potable water approvals</b>			
KTW	•	•	•
WRAS	•	•	•

• = available, - = not available

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...				
	1..	2..	4..	8..	16-6..
<b>Approved fluids</b>					
Potable water, heating water, process water	•	•	•	•	•
Condensate	•	•	•	•	•
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•	•
<b>Power</b>					
Max. volume flow [m <sup>3</sup> /h]	3.0	5.0	8.0	14.0	25.0
Max. delivery head [m]	230	230	210	230	130
Fluid temperature	-15 °C ... 120 °C				
Max. ambient temperature	40	40	40	40	40
Operating pressure	16/25	16/25	16/25	16/25	16/25
Inlet pressure	10	10	10	10	10
Nominal speed	2950				
<b>Motor</b>					
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz (up to 1.5 kW)				
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ or 220 V, 60 Hz Δ (up to 4.0 kW) 400 V, 50 Hz Y or 380 V, 60 Hz Y (from 5.5 kW and higher) 400 V, 50 Hz Δ or 380 V, 60 Hz Δ (from 5.5 kW and higher)				
Insulation class	F	F	F	F	F
Emitted interference	EN 61800-3	EN 61800-3	EN 61800-3	EN 61800-3	EN 61800-3
Protection class	IP 55	IP 55	IP 55	IP 55	IP 55
<b>Connections</b>					
Nominal diameter of pipe connections on suction side	-	-	-	-	-
Nominal diameter of pipe connections on pressure side	-	-	-	-	-
Flange connections PN 16/PN 25	25	25	32	40	50
Victral connections	•	•	•	•	•
<b>Materials</b>					
Impeller (standard)	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301
Stage chambers	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301
Pump housing	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	EN-GJL-250/ 1.4404
Pump shaft	1.4028	1.4028	1.4028	1.4028	1.4028
Seal	EPDM/Viton				
Housing cover	1.4301	1.4301	1.4301	1.4301	1.4301

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...				
	1..	2..	4..	8..	16-6..
Lower housing section	1.4301	1.4301	1.4301	1.4301	1.4301/1.4404
Mechanical seal		B-carbon/tungsten carbide SiC/carbon			
Pressure shroud			1.4301/1.4404		
Bearing	Tungsten carbide	Tungsten carbide	Tungsten carbide	Tungsten carbide	Tungsten carbide
Pump base	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump base (in contact with the fluid)	-	-	-	-	-

\* = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...		
	16..	32..	52..
<b>Approved fluids</b>			
Potable water, heating water, process water	•	•	•
Condensate	•	•	•
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•
<b>Power</b>			
Max. volume flow [m <sup>3</sup> /h]	25.0	50.0	70.0
Max. delivery head [m]	240	220	180
Fluid temperature	-15 °C ... 120 °C		
Max. ambient temperature	40	40	40
Operating pressure	16/25	16/25	16/25
Inlet pressure	10	10	10
Nominal speed	2950		
<b>Motor</b>			
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz (up to 1.5 kW)		
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ or 220 V, 60 Hz Δ (up to 4.0 kW) 400 V, 50 Hz Y or 380 V, 60 Hz Y (from 5.5 kW and higher) 400 V, 50 Hz Δ or 380 V, 60 Hz Δ (from 5.5 kW and higher)		
Insulation class	F	F	F
Emitted interference	EN 61800-3	EN 61800-3	EN 61800-3
Protection class	IP 55	IP 55	IP 55
<b>Connections</b>			
Nominal diameter of pipe connections on suction side	-	-	-
Nominal diameter of pipe connections on pressure side	-	-	-
Flange connections PN 16/PN 25	50	65	80
Vicatulic connections	-	-	-
<b>Materials</b>			
Impeller (standard)	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404
Stage chambers	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404
Pump housing	EN-GJL-250/1.4404	EN-GJL-250/1.4404	EN-GJL-250/1.4404
Pump shaft	1.4028	1.4028	1.4028
Seal	EPDM/Viton		
Housing cover	1.4301	1.4301	1.4301

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...		
	16..	32..	52..
Lower housing section	–	–	–
Mechanical seal		B-carbon/tungsten carbide SiC/carbon	
Pressure shroud		1.4301/1.4404	
Bearing	Tungsten carbide	Tungsten carbide	Tungsten carbide
Pump base	EN-GJL-250	EN-GJL-250	EN-GJL-250
Pump base (in contact with the fluid)	EN-GJL-250/1.4408	EN-GJL-250/1.4408	EN-GJL-250/1.4408

\* = available, – = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...			
	32..C	52..C	70..	95..
<b>Approved fluids</b>				
Potable water, heating water, process water	•	•	•	•
Condensate	-	-	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•
<b>Power</b>				
Max. volume flow [m <sup>3</sup> /h]	50.0	70.0	100.0	140.0
Max. delivery head [m]	220	180	172	150
Fluid temperature	-15 °C ... 120 °C			
Max. ambient temperature	40	40	40	40
Operating pressure	25	25	16/25	16/25
Inlet pressure	10	10	10	10
Nominal speed	2900			
<b>Motor</b>				
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 220 V, 60 Hz (up to 1.5 kW)			
Mains connection 3~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz Δ (only MVI 7001/1) 400 V, 50 Hz Δ or 380 V, 60 Hz Δ (from 5.5 kW and higher)			
Insulation class	F	F	F	F
Emitted interference	EN 61800-3	EN 61800-3	EN 61800-3	EN 61800-3
Protection class	IP 55	IP 55	IP 55	IP 55
<b>Connections</b>				
Nominal diameter of pipe connections on suction side	-	-	-	-
Nominal diameter of pipe connections on pressure side	-	-	-	-
Flange connections PN 16/PN 25	65	80	100	100
Victrallic connections	-	-	-	-
<b>Materials</b>				
Impeller (standard)	1.4401	1.4401	1.4401	1.4401
Stage chambers	1.4404	1.4404	1.4404	1.4404
Pump housing	1.4301	1.4301	1.4301	1.4301
Pump shaft	1.4301	1.4301	1.4301	1.4301
Seal	EPDM			
Housing cover	1.4301	1.4301	1.4301	1.4301
Lower housing section	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404	1.4301/1.4404

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo Multivert MVI

	Wilo-Multivert MVI...			
	32..C	52..C	70..	95..
Mechanical seal	Tungsten carbide/carbon/EPDM			
Pressure shroud	1.4301/1.4404			
Bearing	Tungsten carbide	Tungsten carbide	Tungsten carbide	Tungsten carbide
Pump base	-	-	-	-
Pump base (in contact with the fluid)	EN-GJL-250 (cata-phoretically coated)	EN-GJL-250 (cata-phoretically coated)	EN-GJL-250 (cata-phoretically coated)	EN-GJL-250 (cata-phoretically coated)

• = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

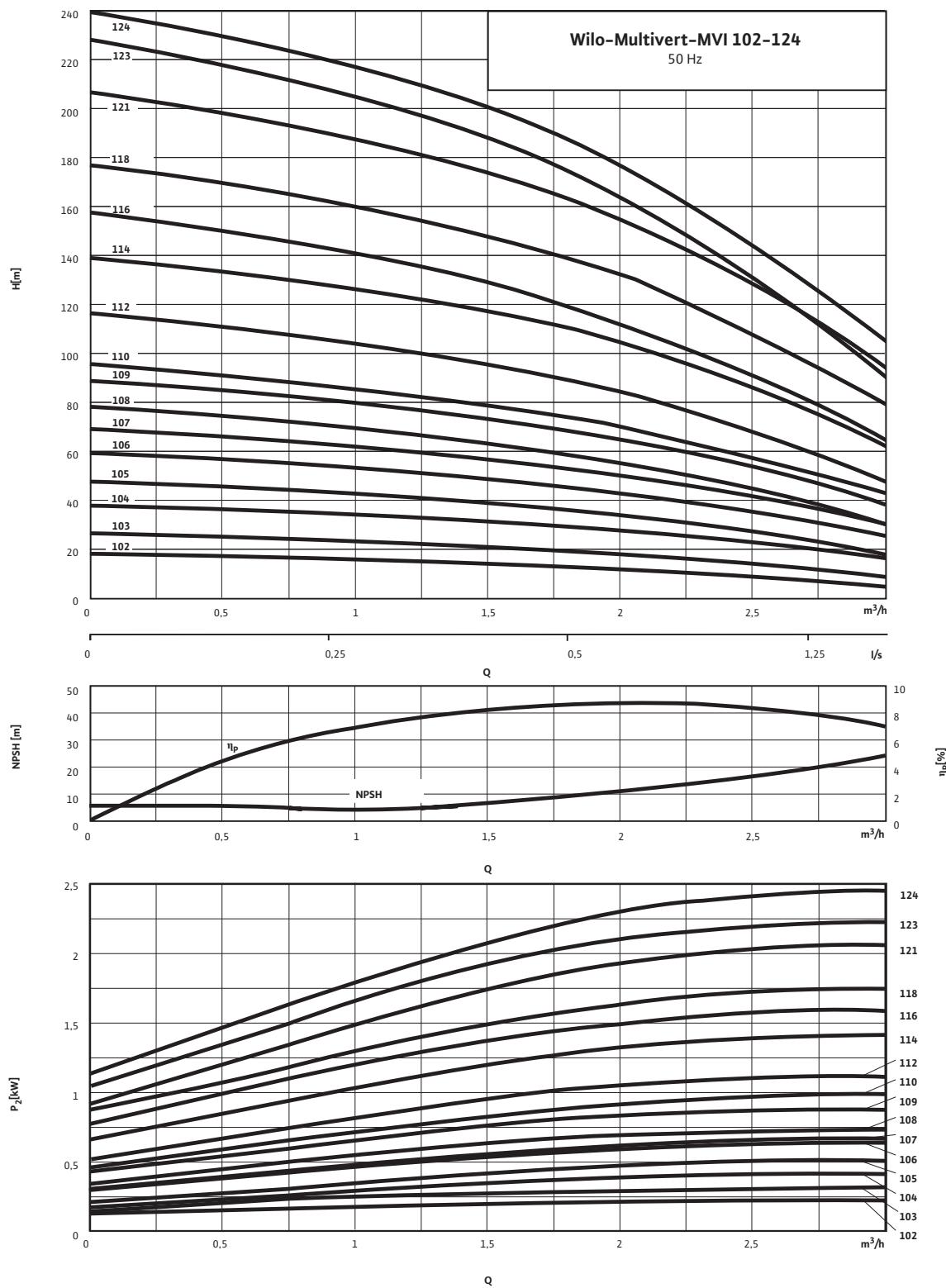
1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVI 1/2/4/8/16..-6 ..-/2..-/4..-/8..-/16..-6

#### Wilo-Multivert MVI 102 – 124



Pump curves in accordance with ISO 9906, class 2

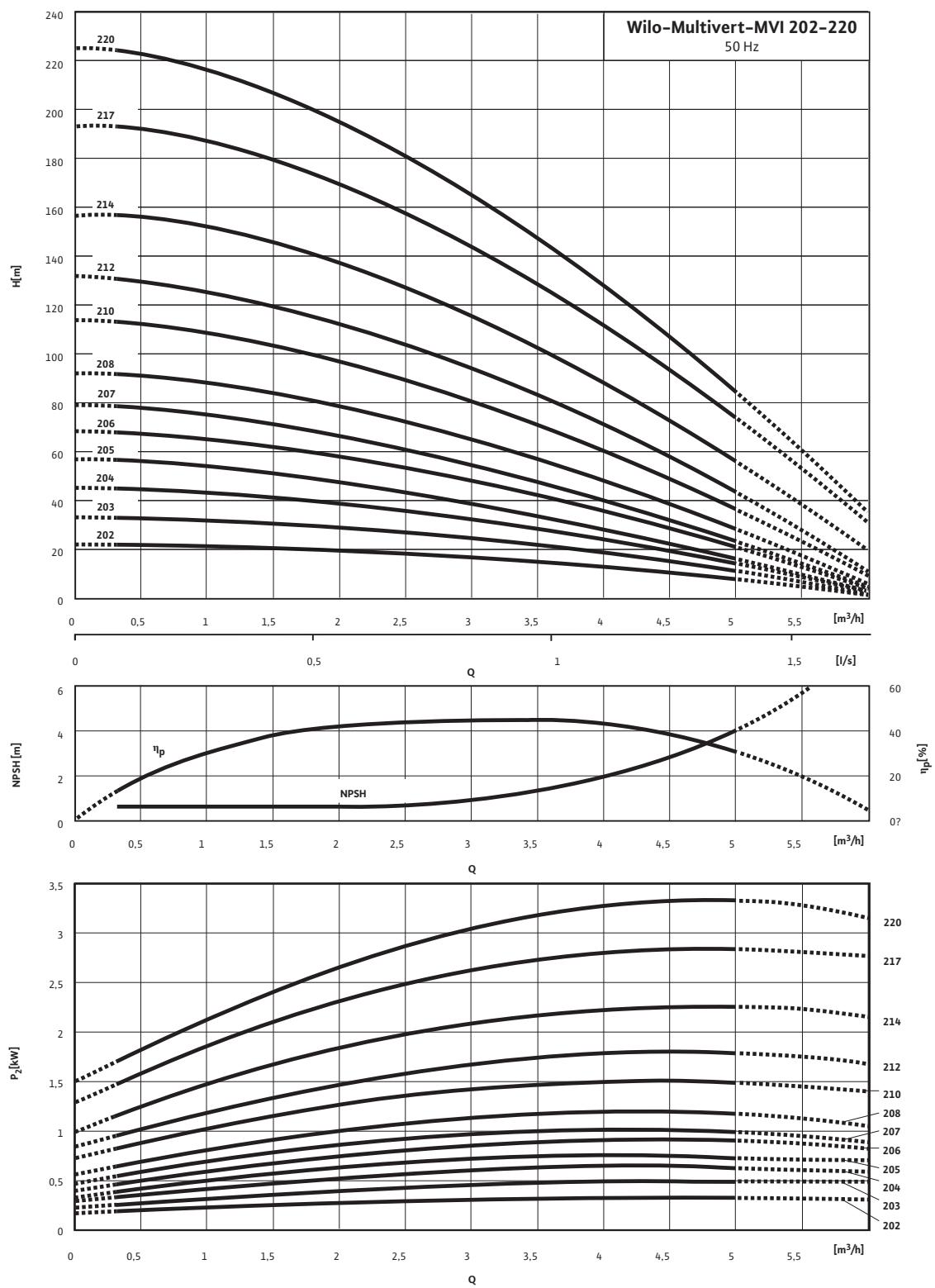
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVI 1/2/4/8/16..-6 ..2../4../8../16..-6

#### Wilo-Multivert MVI 202 – 220



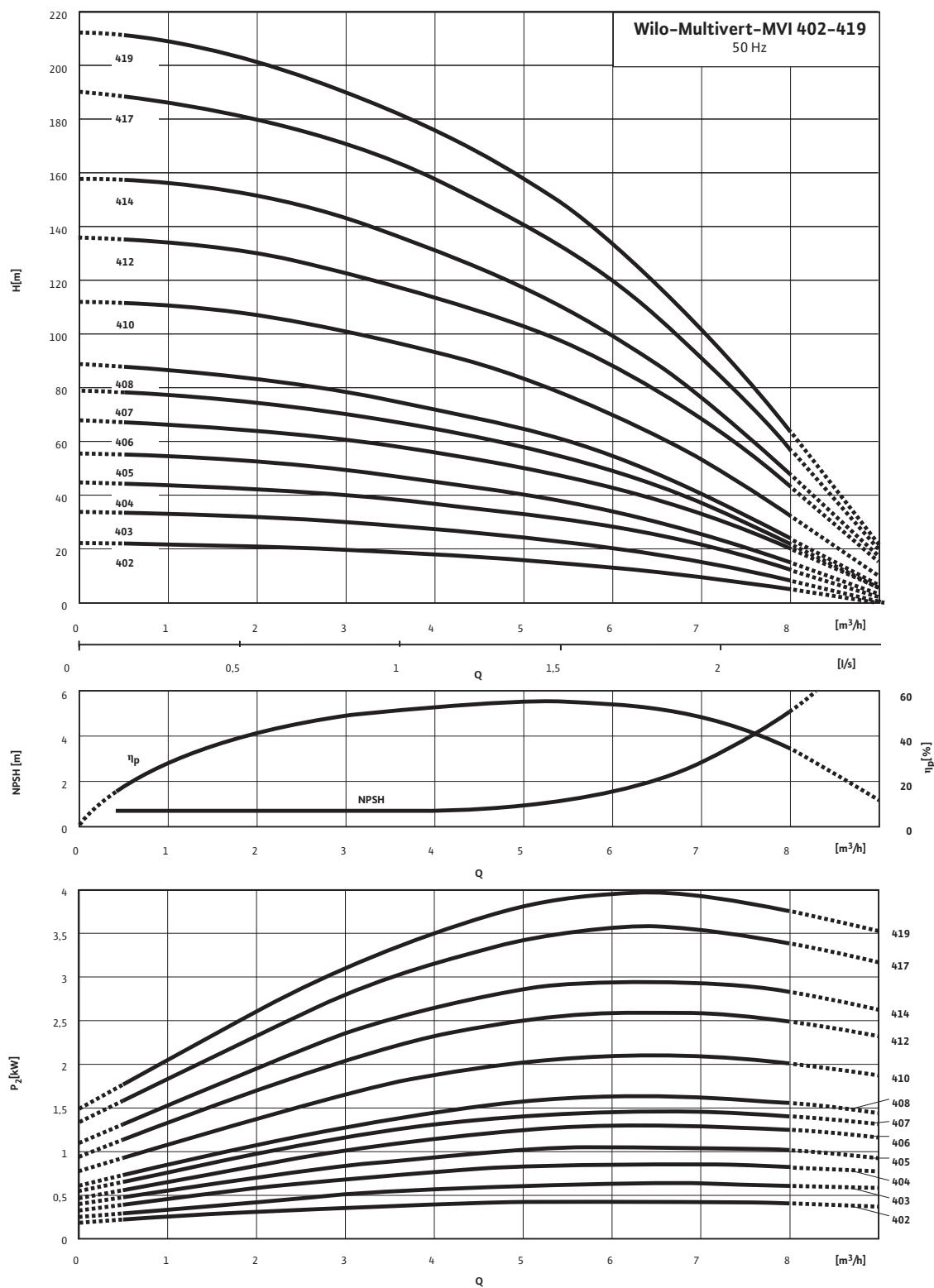
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVI 1/2/4/8/16..-6 ..2..4..8..16..-6

#### Wilo-Multivert MVI 402 – 419



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

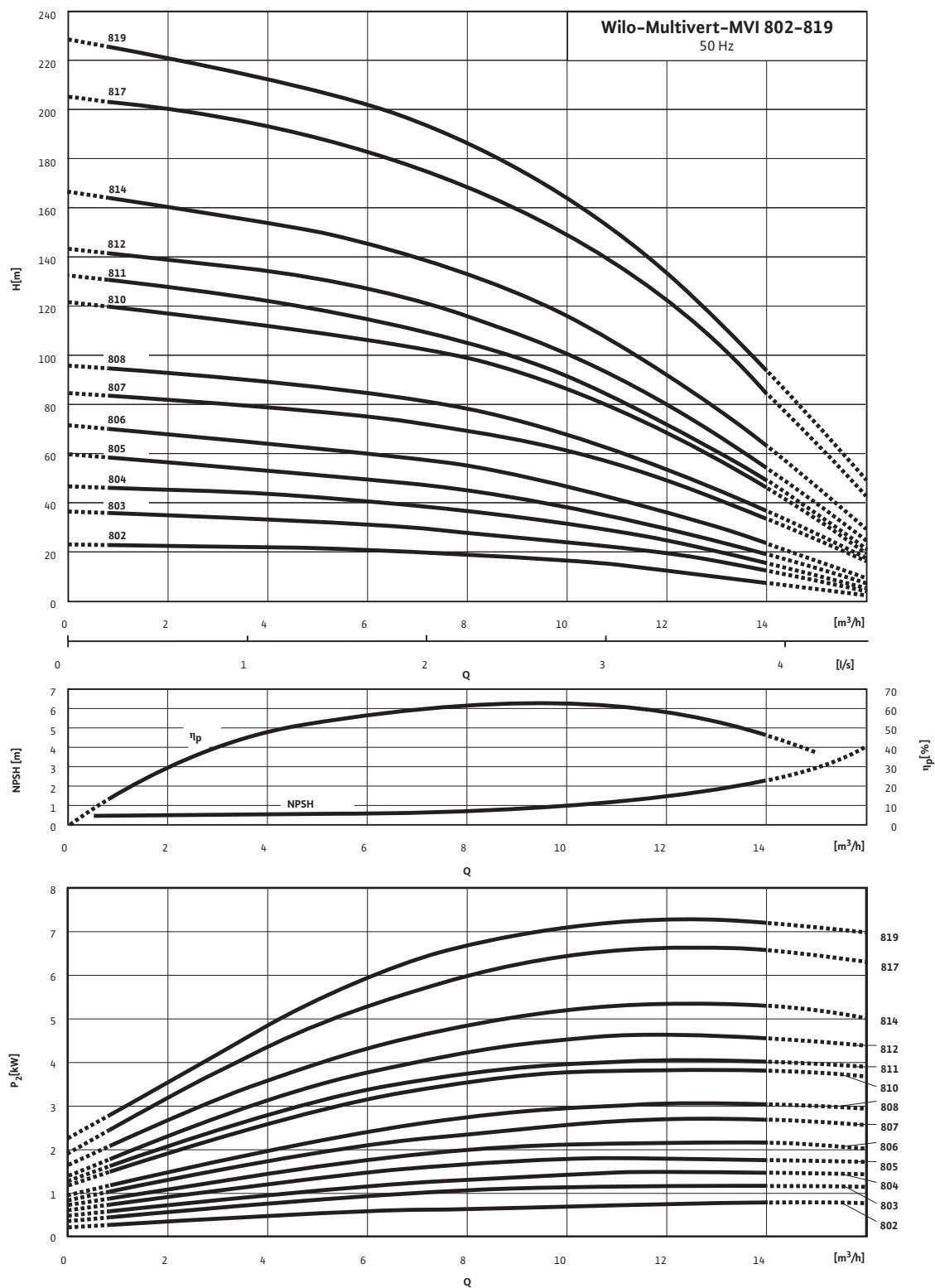
**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVI 1/2/4/8/16..-6 ..2../4../8../16..-6

#### Wilo-Multivert MVI 802 – 819

2-pole, 50 Hz



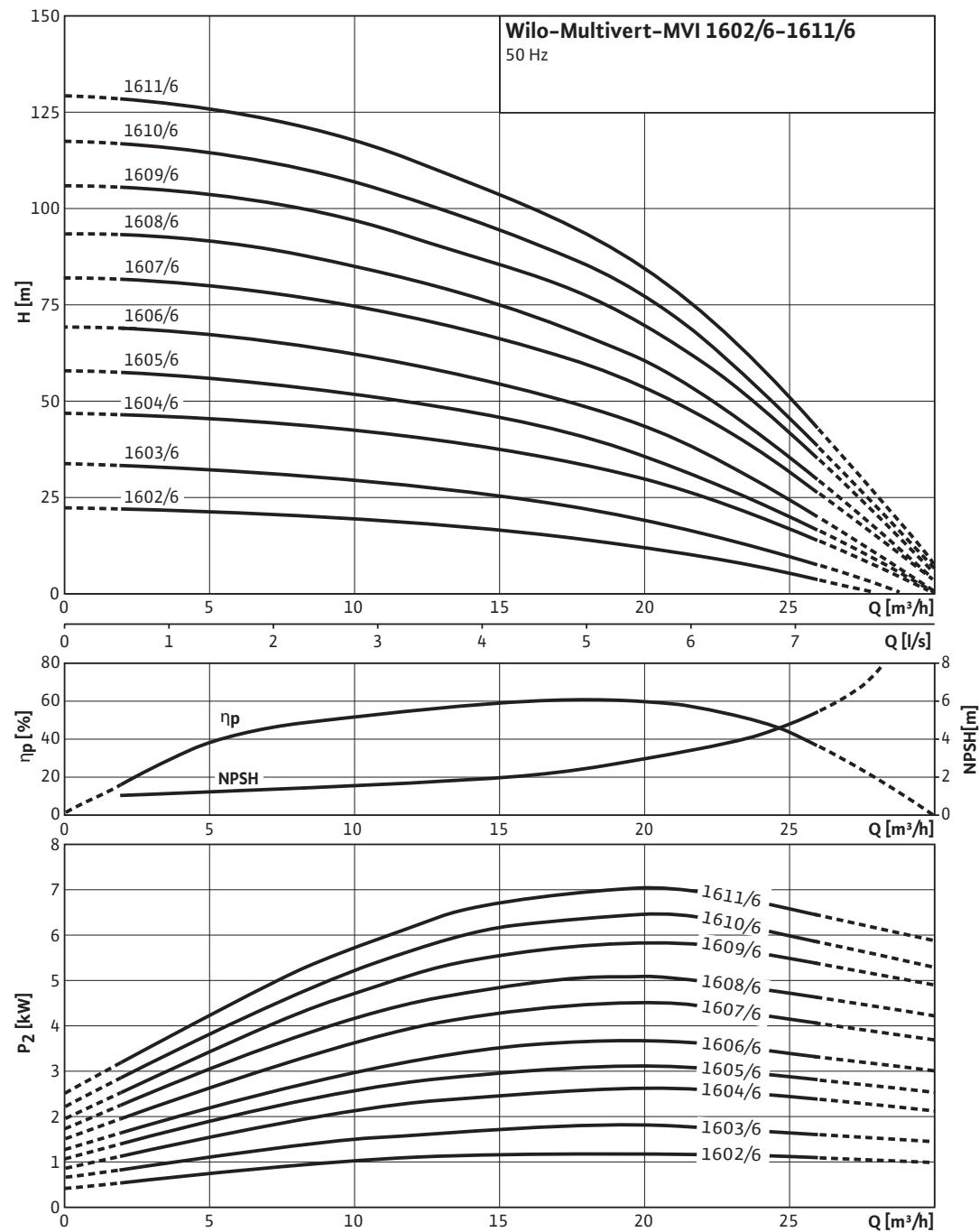
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVI 1/2/4/8/16..-6 ..-/2..-/4..-/8..-/16..-6

#### Wilo-Multivert MVI 1602-6 - 1611-6



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

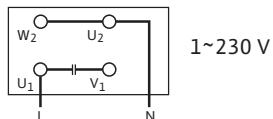
**WILO**

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVI 1/2/4/8/16..-6..-2..-4..-8..-16..-6

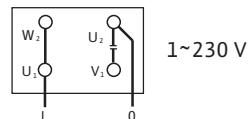
#### Terminal diagram

##### Single-phase current



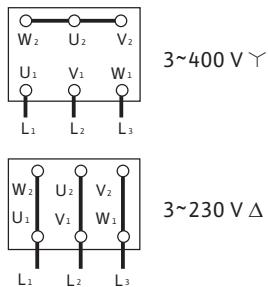
#### Terminal diagram

##### Single-phase current at wrong direction of rotation



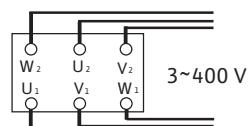
#### Terminal diagram

##### Three-phase current ≤ 4 kW



#### Terminal diagram

##### Three-phase current ≥ 5,5 kW; Y-Δ-direct starting



#### Motor data

Wilo Multivert...	Nominal motor power P <sub>2</sub> [kW]	Nominal current	
		1~230V, 50 Hz	3~230V/3~400V, 50 Hz
		I <sub>N</sub> [A]	
MVI 102	0.37	1.70	1.60 /0.93
MVI 103	0.37	1.70	1.60 /0.93
MVI 104	0.55	3.60	2.28 /1.32
MVI 105	0.55	3.60	2.28 /1.32
MVI 106	0.75	4.85	2.94 /1.70
MVI 107	0.75	4.85	2.94 /1.70
MVI 108	0.75	4.85	2.94 /1.70
MVI 109	1.10	6.60	4.15 /2.40
MVI 110	1.10	6.60	4.15 /2.40
MVI 112	1.10	6.60	4.15 /2.40
MVI 114	1.50	9.10	5.50 /3.20

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

Motor data			
Wilo Multivert...	Nominal motor power  P <sub>2</sub> [kW]	Nominal current	
		1~230V, 50 Hz	3~230V/3~400V, 50 Hz
		I <sub>N</sub>	[A]
MVI 116	1.85	–	6.75 /3.90
MVI 118	1.85	–	6.75 /3.90
MVI 121	2.20	–	7.80 /4.50
MVI 123	2.20	–	7.80 /4.50
MVI 124	3.00	–	10.40 /6.00
MVI 202	0.37	2.70	1.60 /0.93
MVI 203	0.55	3.60	2.30 /1.35
MVI 204	0.75	4.85	2.94 /1.70
MVI 205	0.75	4.85	2.94 /1.70
MVI 206	1.10	6.60	4.15 /2.40
MVI 207	1.10	6.60	4.15 /2.40
MVI 208	1.50	9.10	5.50 /3.20
MVI 210	1.50	9.10	5.50 /3.20
MVI 212	1.85	–	6.75 /3.90
MVI 214	2.20	–	7.80 /4.50
MVI 217	3.00	–	10.40 /6.00
MVI 220	3.70	–	12.80 /7.40
MVI 402	0.55	3.60	2.30 /1.35
MVI 403	0.75	4.85	2.94 /1.70
MVI 404	1.10	6.60	4.15 /2.40
MVI 405	1.10	6.60	4.15 /2.40
MVI 406	1.50	9.10	5.50 /3.20
MVI 407	1.50	9.10	5.50 /3.20
MVI 408	1.85	–	6.75 /3.90
MVI 410	2.20	–	7.80 /4.50
MVI 412	3.00	–	10.40 /6.00
MVI 414	3.00	–	10.40 /6.00
MVI 417	3.70	–	12.80 /7.40
MVI 419	4.00	–	13.68 /7.90
MVI 802	0.75	4.85	2.94 /1.70
MVI 803	1.10	6.60	4.15 /2.40
MVI 804	1.50	9.10	5.50 /3.20
MVI 805	1.85	–	6.75 /3.90
MVI 806	2.20	–	7.80 /4.50
MVI 807	3.00	–	10.40 /6.00
MVI 808	3.00	–	10.40 /6.00
MVI 810	3.70	–	12.80 /7.40
MVI 811	4.00	–	13.68 /7.90
MVI 812	5.50	–	-/10.80
MVI 814	5.50	–	-/10.80
MVI 817	7.50	–	-/13.80
MVI 819	7.50	–	-/13.80
MVI 1602-6	1.50	–	5.50 /3.20

# High-pressure multistage centrifugal pumps



Single pumps

## Terminal diagram, motor data Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

Motor data			
Wilo Multivert...	Nominal motor power	Nominal current	
		1~230V, 50 Hz	3~230V/3~400V, 50 Hz
	P <sub>2</sub> [kW]	I <sub>N</sub>	[A]
<b>MVI 1603-6</b>	2.20	–	7.80 /4.50
<b>MVI 1604-6</b>	3.00	–	10.40 /6.00
<b>MVI 1605-6</b>	3.70	–	12.80 /7.40
<b>MVI 1606-6</b>	4.00	–	13.68 /7.90
<b>MVI 1607-6</b>	5.50	–	-/10.80
<b>MVI 1608-6</b>	5.50	–	-/10.80
<b>MVI 1609-6</b>	7.50	–	-/13.80
<b>MVI 1610-6</b>	7.50	–	-/13.80
<b>MVI 1611-6</b>	7.50	–	-/13.80

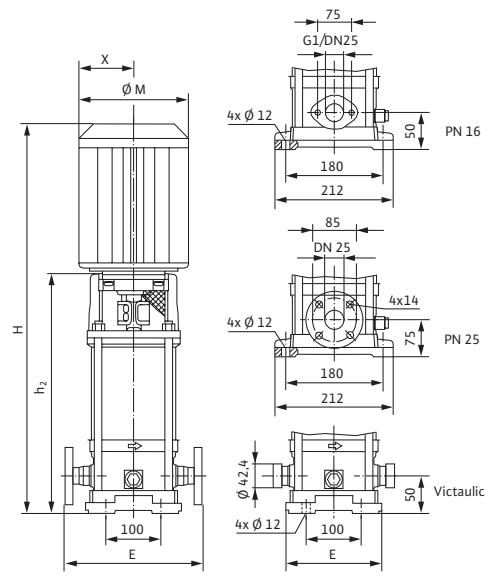
# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

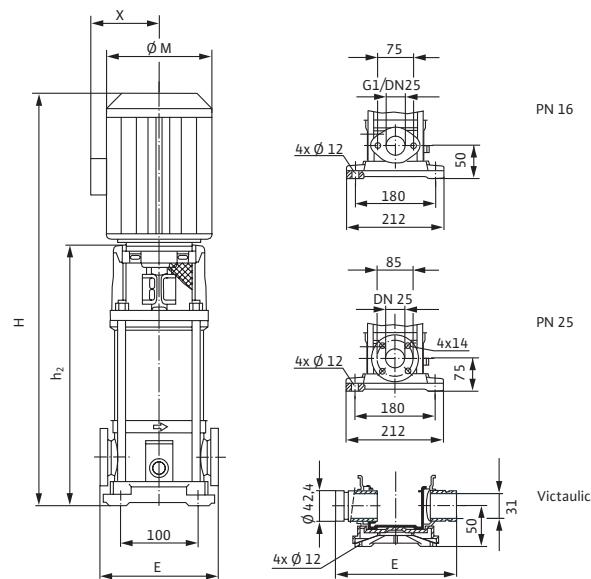
#### Dimension drawing

Wilo-Multivert MVI 102 - 124



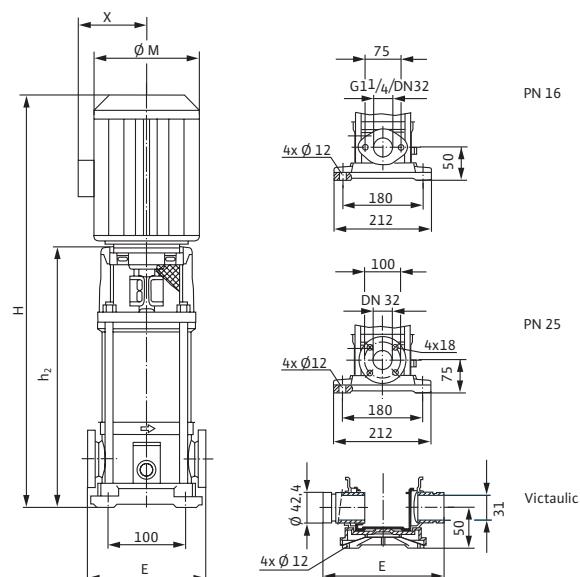
#### Dimension drawing

Wilo-Multivert MVI 202 - 220



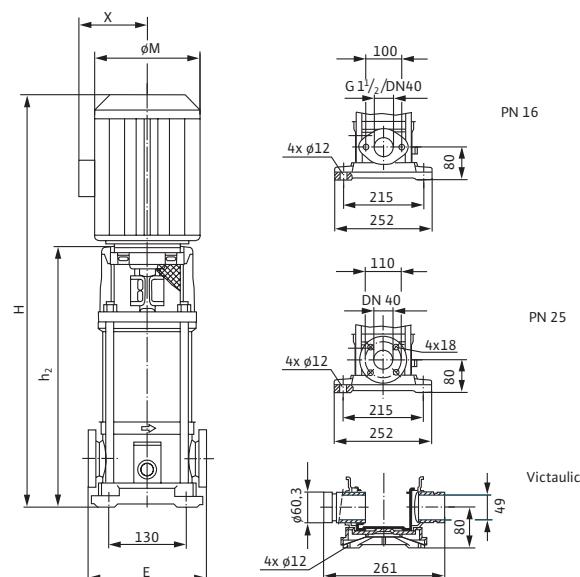
#### Dimension drawing

Wilo-Multivert MVI 402 - 419



#### Dimension drawing

Wilo-Multivert MVI 802 - 819



# High-pressure multistage centrifugal pumps

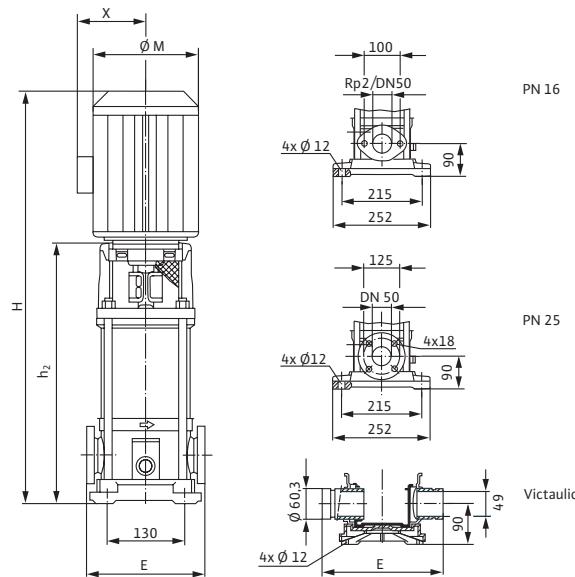
**WILO**

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6..-2..-4..-8..-16..-6

#### Dimension drawing

Wilo-Multivert MVI 1602-6 – 1611-6



#### Dimensions, weights – Version PN 16 oval flange

Wilo Multivert...	Dimensions							Weight approx.		
			1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	
	E	h2	H	Ø M	X	m		1~ 230V	3~ 400V	
	[mm]							[kg]		
<b>MVI 102</b>	204	305.0	490.0	527.5	140	140	107	118	19.5	18.8
<b>MVI 103</b>	204	305.0	490.0	527.5	140	140	107	118	19.7	19.0
<b>MVI 104</b>	204	304.5	489.5	527.0	140	140	107	118	20.7	19.8
<b>MVI 105</b>	204	344.5	529.5	567.0	140	140	107	118	21.9	21.0
<b>MVI 106</b>	204	355.0	570.0	598.5	162	170	121	127	24.0	23.9
<b>MVI 107</b>	204	374.5	589.5	618.0	162	170	121	127	24.7	24.6
<b>MVI 108</b>	204	414.5	629.5	658.0	162	170	121	127	25.9	25.8
<b>MVI 109</b>	204	414.5	629.5	658.0	162	170	121	127	27.8	27.2
<b>MVI 110</b>	204	434.5	649.5	678.0	162	170	121	127	28.5	27.9
<b>MVI 112</b>	204	474.5	689.5	718.0	162	170	121	127	29.8	29.2
<b>MVI 114</b>	204	524.5	769.5	791.0	182	193	131	151	39.9	35.6

<sup>1)</sup> Weight including counter flanges, without packaging

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

Dimensions, weights – Version PN 25 round flange										
Wilo Multivert...	Dimensions							Weight approx.		
			1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V
	E	h <sub>2</sub>	H	Ø M		X		m		[kg]
[mm]							[kg]			
<b>MVI 102</b>	250	330.0	515.0	552.5	140	140	107	118	20.6	19.9
<b>MVI 103</b>	250	330.0	515.0	552.5	140	140	107	118	20.8	20.1
<b>MVI 104</b>	250	329.5	514.5	552.0	140	140	107	118	21.8	20.9
<b>MVI 105</b>	250	369.5	554.5	592.0	140	140	107	118	23.0	22.1
<b>MVI 106</b>	250	380.0	595.0	623.5	162	170	121	127	25.1	25.0
<b>MVI 107</b>	250	399.5	614.5	643.0	162	170	121	127	25.8	25.7
<b>MVI 108</b>	250	439.5	654.5	683.0	162	170	121	127	27.0	26.9
<b>MVI 109</b>	250	439.5	654.5	683.0	162	170	121	127	28.9	28.3
<b>MVI 110</b>	250	459.5	674.5	703.0	162	170	121	127	29.6	29.0
<b>MVI 112</b>	250	499.5	714.5	743.0	162	170	121	127	30.9	30.3
<b>MVI 114</b>	250	549.5	794.5	816.0	182	193	131	151	41.0	36.7
<b>MVI 116</b>	250	589.5	–	856.0	–	193	–	151	–	38.9
<b>MVI 118</b>	250	629.5	–	896.0	–	193	–	151	–	40.3
<b>MVI 121</b>	250	689.5	–	956.0	–	193	–	151	–	44.4
<b>MVI 123</b>	250	749.5	–	1016.0	–	193	–	151	–	46.3
<b>MVI 124</b>	250	759.5	–	1054.5	–	217	–	160	–	51.1

<sup>1)</sup> Weight without packaging

# High-pressure multistage centrifugal pumps



## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6..-2..-4..-8..-16..-6

Dimensions, weights – Version PN 16 oval flange

Wilo Multivert...	Dimensions							Weight approx.		
			1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V
	E	h <sub>2</sub>	H	Ø M	X		m	[kg]		
			[mm]							
<b>MVI 202</b>	204	296.5	481.5	519.0	140	140	107	118	17.5	16.8
<b>MVI 203</b>	204	296.5	519.0	481.5	140	140	107	118	18.3	17.4
<b>MVI 204</b>	204	330.5	545.5	574.0	162	170	121	127	21.1	21.0
<b>MVI 205</b>	204	354.5	569.5	598.0	162	170	121	127	21.7	21.6
<b>MVI 206</b>	204	378.5	593.5	622.0	162	170	121	127	24.0	23.4
<b>MVI 207</b>	204	412.5	627.5	656.0	162	170	121	127	26.2	25.6
<b>MVI 208</b>	204	436.5	681.5	703.0	182	193	131	151	33.5	29.2
<b>MVI 210</b>	204	484.5	729.5	751.0	182	193	131	151	34.7	30.4
<b>MVI 212</b>	204	532.5	–	799.0	–	193	–	151	–	33.1
<b>MVI 402</b>	204	296.5	519.0	481.5	140	140	107	118	18.3	17.4
<b>MVI 403</b>	204	306.5	521.5	550.0	162	170	121	127	20.5	20.4
<b>MVI 404</b>	204	330.5	545.5	574.0	162	170	121	127	22.9	22.3
<b>MVI 405</b>	204	354.5	569.5	598.0	162	170	121	127	23.5	22.9
<b>MVI 406</b>	204	388.5	633.5	655.0	182	193	131	151	32.3	28.0
<b>MVI 407</b>	204	412.5	657.5	679.0	182	193	131	151	33.0	28.7
<b>MVI 408</b>	204	436.5	–	703.0	–	193	–	151	–	30.1
<b>MVI 410</b>	204	484.5	–	751.0	–	193	–	151	–	33.3
<b>MVI 412</b>	204	542.5	–	837.5	–	217	–	160	–	39.8
<b>MVI 414</b>	–	615.5	–	910.5	–	217	–	160	–	42.3
<b>MVI 802</b>	250	333.5	548.5	577.0	162	170	121	127	22.6	22.5
<b>MVI 803</b>	250	363.5	578.5	607.0	162	170	121	127	25.1	24.5
<b>MVI 804</b>	250	403.5	648.5	670.0	182	193	131	151	34.1	29.8
<b>MVI 805</b>	250	433.5	–	700.0	–	193	–	151	–	31.3
<b>MVI 806</b>	250	463.5	–	730.0	–	193	–	151	–	34.0
<b>MVI 807</b>	250	503.5	–	798.5	–	217	–	160	–	39.4
<b>MVI 808</b>	250	533.5	–	828.5	–	217	–	160	–	40.1
<b>MVI 810</b>	250	593.5	–	888.5	–	217	–	160	–	51.2
<b>MVI 811</b>	250	653.5	–	948.5	–	217	–	160	–	52.4
<b>MVI 812</b>	250	653.5	–	978.5	–	235	–	168	–	56.6
<b>MVI 1602-6</b>	250	369.5	–	636.0	–	193	–	151	–	30.4
<b>MVI 1603-6</b>	250	445.5	–	712.0	–	193	–	151	–	35.2
<b>MVI 1604-6</b>	250	455.5	–	750.5	–	217	–	160	–	40.3
<b>MVI 1605-6</b>	250	531.5	–	826.5	–	217	–	160	–	51.3
<b>MVI 1606-6</b>	250	531.5	–	826.5	–	217	–	160	–	51.7
<b>MVI 1607-6</b>	250	607.5	–	932.5	–	235	–	168	–	57.7
<b>MVI 1608-6</b>	250	607.5	–	932.5	–	235	–	168	–	59.4
<b>MVI 1609-6</b>	250	703.0	–	1099.0	–	279	–	182	–	80.4
<b>MVI 1610-6</b>	250	703.0	–	1099.0	–	279	–	182	–	80.8
<b>MVI 1611-6</b>	250	779.0	–	1175.0	–	279	–	182	–	82.8

<sup>1)</sup> "E" dimension including counter flanges (2 x 25 mm)

<sup>2)</sup> Weight including counter flanges, without packaging

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

Dimensions, weights – Version PN 25 round flange																	
Wilo Multivert...	Dimensions							Weight approx.									
			1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V							
	E	h <sub>2</sub>	H	Ø M		X		m									
[mm]																	
<b>MVI 202</b>																	
	250	321.5	506.5	544.0	140	140	107	118	18.8	18.1							
<b>MVI 203</b>	250	321.5	544.0	506.5	140	140	107	118	19.6	18.7							
<b>MVI 204</b>	250	355.5	570.5	599.0	162	170	121	127	22.4	22.3							
<b>MVI 205</b>	250	379.5	594.5	623.0	162	170	121	127	23.0	22.9							
<b>MVI 206</b>	250	403.5	618.5	647.0	162	170	121	127	25.4	24.8							
<b>MVI 207</b>	250	437.5	652.5	681.0	162	170	121	127	27.5	26.9							
<b>MVI 208</b>	250	461.5	706.5	728.0	182	193	131	151	34.8	30.5							
<b>MVI 210</b>	250	509.5	754.5	776.0	182	193	131	151	36.1	31.8							
<b>MVI 212</b>	250	557.5	–	824.0	–	193	–	151	–	34.4							
<b>MVI 214</b>	250	605.5	–	872.0	–	193	–	151	–	37.6							
<b>MVI 217</b>	250	687.5	–	982.5	–	217	–	160	–	44.7							
<b>MVI 220</b>	250	759.5	–	1054.5	–	217	–	160	–	55.6							
<b>MVI 402</b>	250	321.5	544.0	506.5	140	140	107	118	19.6	18.7							
<b>MVI 403</b>	250	331.5	546.5	575.0	162	170	121	127	21.8	21.7							
<b>MVI 404</b>	250	355.5	570.5	599.0	162	170	121	127	24.2	23.6							
<b>MVI 405</b>	250	379.5	594.5	623.0	162	170	121	127	24.8	24.2							
<b>MVI 406</b>	250	413.5	658.5	680.0	182	193	131	151	33.6	29.3							
<b>MVI 407</b>	250	437.5	682.5	704.0	182	193	131	151	34.3	30.0							
<b>MVI 408</b>	250	461.5	–	728.0	–	193	–	151	–	31.4							
<b>MVI 410</b>	250	509.5	–	776.0	–	193	–	151	–	34.6							
<b>MVI 412</b>	250	567.5	–	862.5	–	217	–	160	–	41.1							
<b>MVI 414</b>	250	615.5	–	910.5	–	217	–	160	–	42.3							
<b>MVI 417</b>	250	687.5	–	982.5	–	217	–	160	–	53.8							
<b>MVI 419</b>	250	759.5	–	1054.5	–	217	–	160	–	55.7							
<b>MVI 802</b>	280	333.5	548.5	577.0	162	170	121	127	23.0	22.9							
<b>MVI 803</b>	280	363.5	578.5	607.0	162	170	121	127	25.4	24.8							
<b>MVI 804</b>	280	403.5	648.5	670.0	182	193	131	151	34.4	30.1							
<b>MVI 805</b>	280	433.5	–	700.0	–	193	–	151	–	31.6							
<b>MVI 806</b>	280	463.5	–	730.0	–	193	–	151	–	34.3							
<b>MVI 807</b>	280	503.5	–	798.5	–	217	–	160	–	39.7							
<b>MVI 808</b>	280	533.5	–	828.5	–	217	–	160	–	40.4							
<b>MVI 810</b>	280	593.5	–	888.5	–	217	–	160	–	51.2							
<b>MVI 811</b>	280	653.5	–	948.5	–	217	–	160	–	52.7							
<b>MVI 812</b>	280	653.5	–	978.5	–	235	–	168	–	57.0							
<b>MVI 814</b>	280	713.5	–	1038.5	–	235	–	168	–	58.4							
<b>MVI 817</b>	280	823.0	–	1219.0	–	279	–	182	–	80.3							
<b>MVI 819</b>	280	883.0	–	1279.0	–	279	–	182	–	81.7							
<b>MVI 1602-6</b>	300	369.5	–	636.0	–	193	–	151	–	30.4							
<b>MVI 1603-6</b>	300	445.5	–	712.0	–	193	–	151	–	35.2							
<b>MVI 1604-6</b>	300	455.5	–	750.5	–	217	–	160	–	40.3							
<b>MVI 1605-6</b>	300	531.5	–	826.5	–	217	–	160	–	51.3							
<b>MVI 1606-6</b>	300	531.5	–	826.5	–	217	–	160	–	51.7							

# High-pressure multistage centrifugal pumps



## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6..-2..-4..-8..-16..-6

Dimensions, weights – Version PN 25 round flange

Wilo Multivert...	Dimensions							Weight approx.		
			1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V	1~ 230V	3~ 400V
	E	h <sub>2</sub>	H	Ø M	X	m	[kg]			
<b>MVI 1607-6</b>	300	607.5	–	932.5	–	235	–	168	–	57.7
<b>MVI 1608-6</b>	300	607.5	–	932.5	–	235	–	168	–	59.4
<b>MVI 1609-6</b>	300	703.0	–	1099.0	–	279	–	182	–	80.4
<b>MVI 1610-6</b>	300	703.0	–	1099.0	–	279	–	182	–	80.8
<b>MVI 1611-6</b>	300	779.0	–	1175.0	–	279	–	182	–	82.8

<sup>1)</sup> Weight without packaging

Dimensions, weights – Version PN 25 Victaulic 3~400 V

Wilo Multivert...	Dimensions					Weight approx.	
	E	H	H <sub>2</sub>	Ø g	X	m	
						[kg]	
<b>MVI 202</b>	210	519.0	296.5	140	118	18.1	
<b>MVI 203</b>	210	481.5	296.5	140	118	18.7	
<b>MVI 204</b>	210	574.0	330.5	170	127	22.3	
<b>MVI 205</b>	210	598.0	354.5	170	127	22.9	
<b>MVI 206</b>	210	622.0	378.5	170	127	24.8	
<b>MVI 207</b>	210	656.0	412.5	170	127	26.9	
<b>MVI 208</b>	210	703.0	436.5	193	151	30.5	
<b>MVI 210</b>	210	751.0	484.5	193	151	31.8	
<b>MVI 212</b>	210	799.0	532.5	193	151	34.4	
<b>MVI 214</b>	210	847.0	580.5	193	151	37.6	
<b>MVI 217</b>	210	957.5	662.5	217	160	44.7	
<b>MVI 220</b>	210	1029.5	734.5	217	160	55.6	
<b>MVI 402</b>	210	481.5	296.5	140	118	18.7	
<b>MVI 403</b>	210	550.0	306.5	170	127	21.7	
<b>MVI 404</b>	210	574.0	330.5	170	127	23.6	
<b>MVI 405</b>	210	598.0	354.5	170	127	24.2	
<b>MVI 406</b>	210	655.0	388.5	193	151	29.3	
<b>MVI 407</b>	210	679.0	412.5	193	151	30.0	
<b>MVI 408</b>	210	703.0	436.5	193	151	30.6	
<b>MVI 410</b>	210	751.0	484.5	193	151	34.6	
<b>MVI 412</b>	210	837.5	542.5	217	160	41.1	
<b>MVI 414</b>	210	885.5	590.5	217	160	42.3	
<b>MVI 417</b>	210	957.5	662.5	217	160	53.8	
<b>MVI 419</b>	210	1029.5	734.5	217	160	55.7	
<b>MVI 802</b>	261	577.0	333.5	170	127	22.9	
<b>MVI 803</b>	261	607.0	363.5	170	127	24.8	
<b>MVI 804</b>	261	670.0	403.5	193	151	30.1	
<b>MVI 805</b>	261	700.0	433.5	193	151	31.6	
<b>MVI 806</b>	261	730.0	463.5	193	151	34.3	
<b>MVI 807</b>	261	798.5	503.5	217	160	39.7	
<b>MVI 808</b>	261	828.5	533.5	217	160	40.4	
<b>MVI 810</b>	261	888.5	593.5	217	160	51.2	

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1/2/4/8/16..-6../2../4../8../16..-6

Dimensions, weights – Version PN 25 Victaulic 3~400 V

Wilo Multivert...	Dimensions					Weight approx.
	E	H	H <sub>2</sub>	Ø g	X	
	[mm]					[kg]
<b>MVI 811</b>	261	948.5	653.5	217	160	52.7
<b>MVI 812</b>	261	978.5	653.5	235	168	57.0
<b>MVI 814</b>	261	1038.5	713.5	235	168	58.4
<b>MVI 817</b>	261	1219.0	823.0	279	182	80.3
<b>MVI 819</b>	261	1279.0	883.0	279	182	81.7

# High-pressure multistage centrifugal pumps

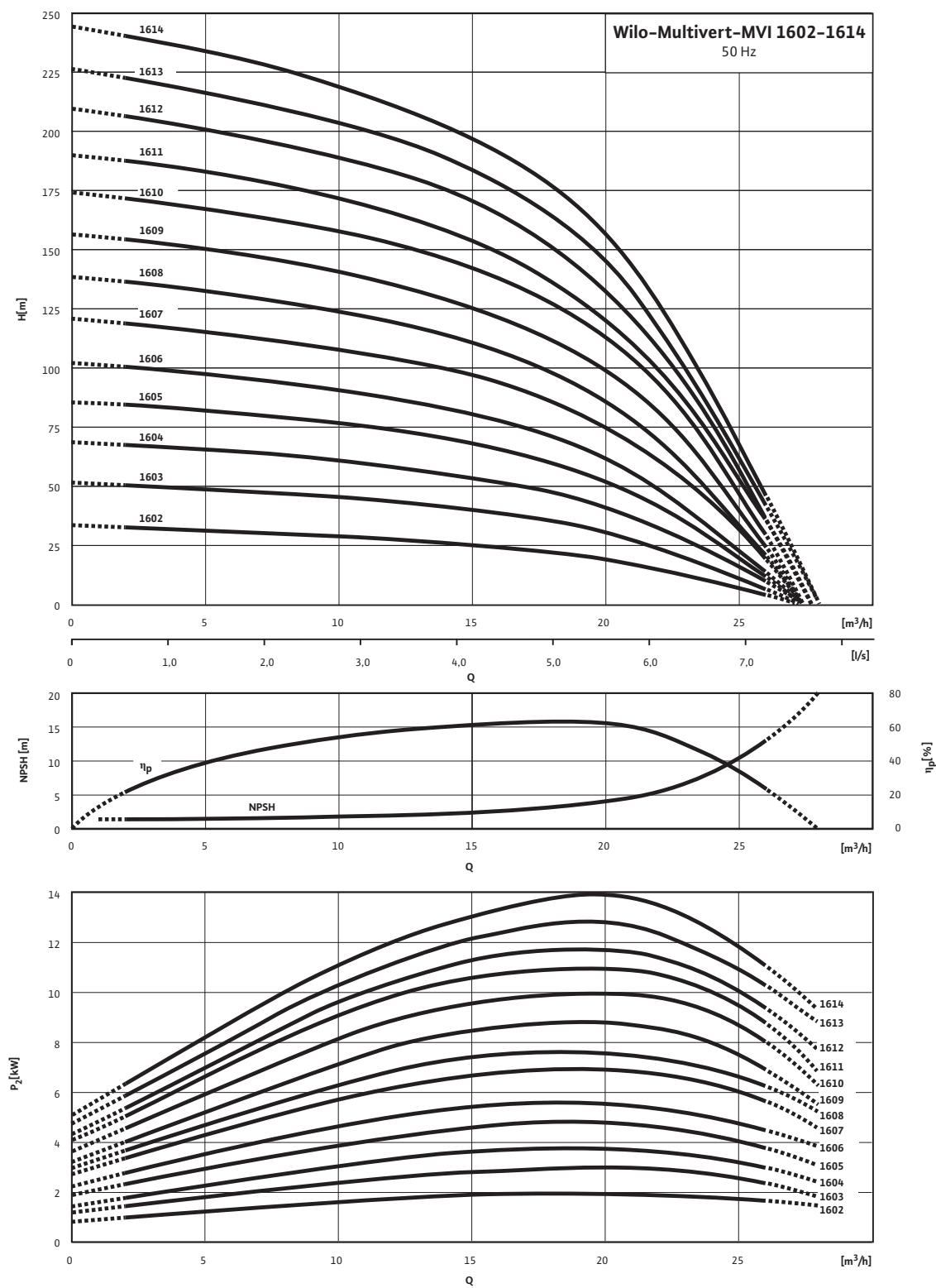
**WILO**

Single pumps

## Pump curves Wilo-Multivert MVI 1602 – 1614, 3202 – 3213 C, 5202 – 5212 C

### Wilo-Multivert MVI 1602 – 1614

2-pole, 50 Hz



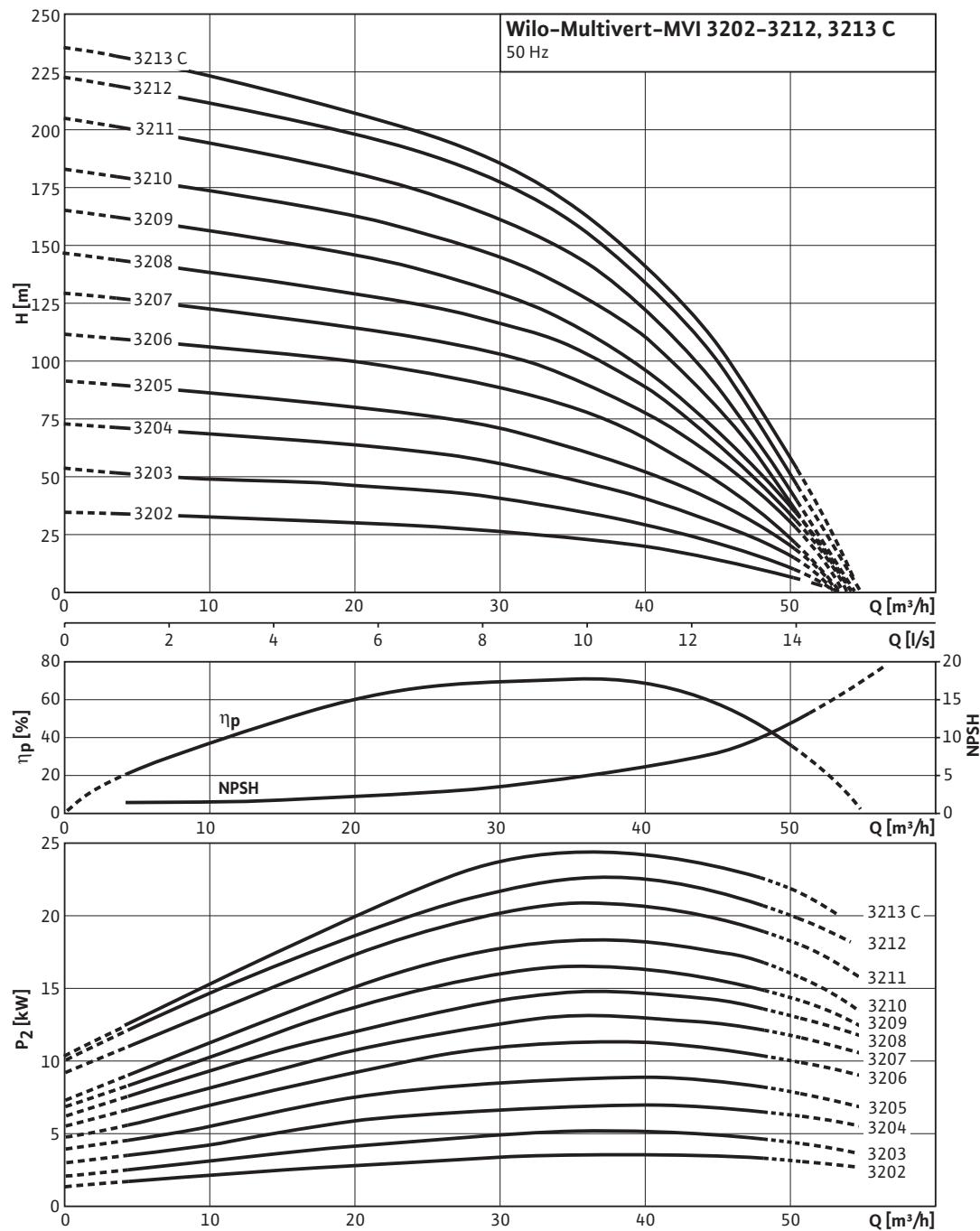
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVI 1602 - 1614, 3202 - 3213 C, 5202 - 5212 C

#### Wilo-Multivert MVI 3202 - 3213 C



Pump curves in accordance with ISO 9906, class 2

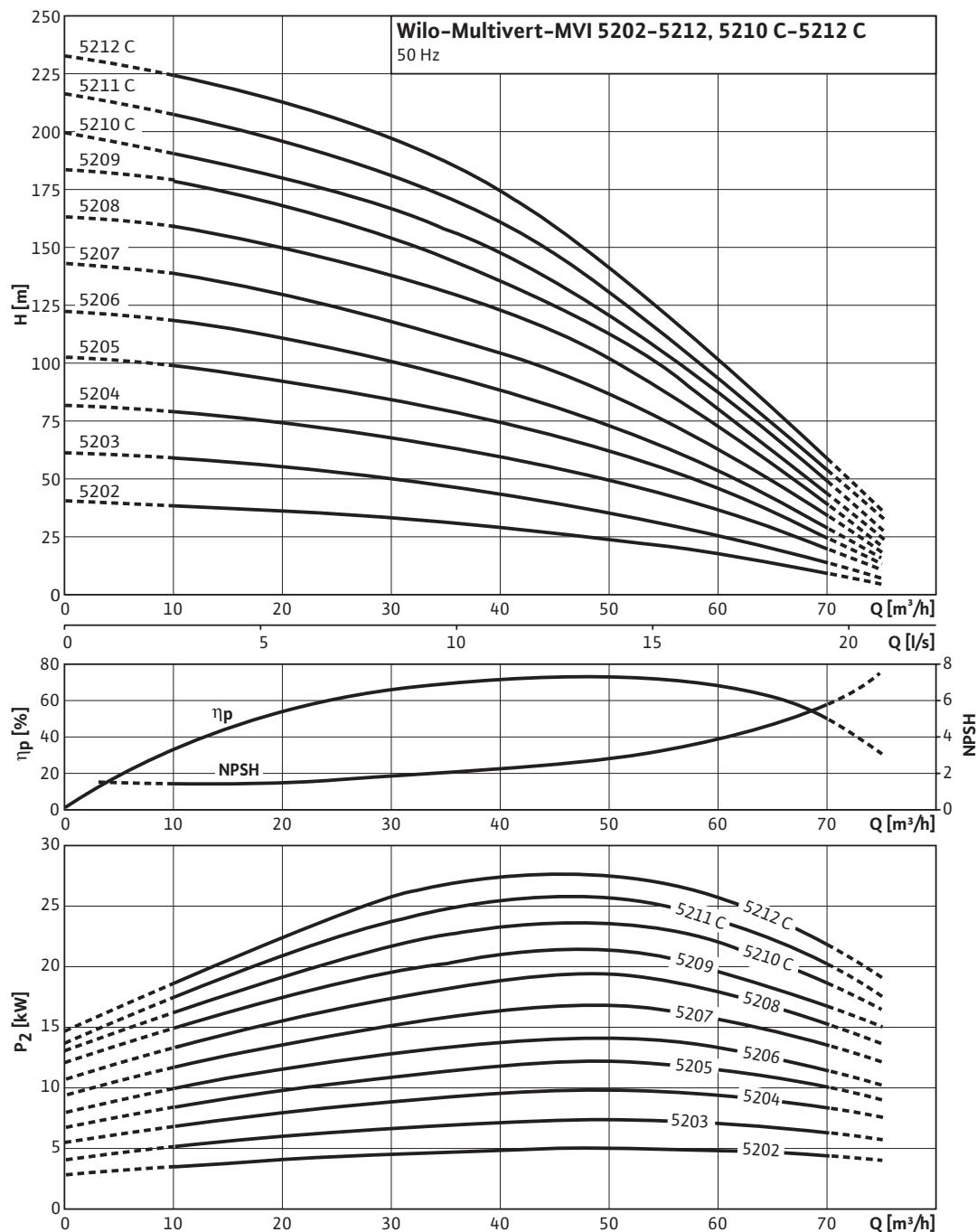
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVI 1602 – 1614, 3202 – 3213 C, 5202 – 5212 C

### Wilo-Multivert MVI 5202 – 5212 C



Pump curves in accordance with ISO 9906, class 2

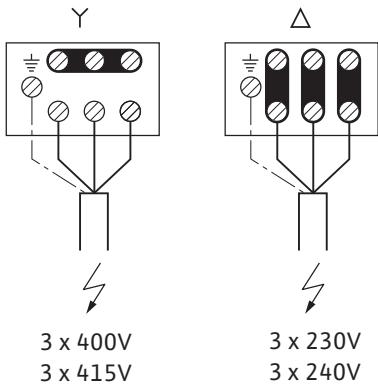
# High-pressure multistage centrifugal pumps

## Single pumps

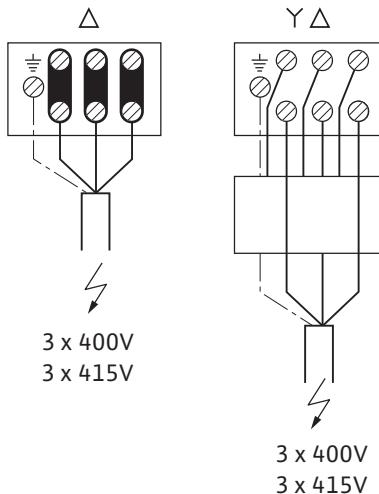
### Terminal diagram, motor data Wilo-Multivert MVI 1602 to 5212 C

#### Terminal diagram

MOT. 230 – 400V 240 – 415V  
 < 4kW



MOT. 400VD 415VD  
 > 4kW



#### Motor data

Wilo Multivert...	Nominal motor power		Nominal current approx.		Nominal current
	$P_2$		$I_{N3\sim 230\text{ V}}$		$I_N$ (3~400 V, 50 Hz)
	[kW]	[A]	[A]	[A]	[A]
<b>MVI 1602</b>	2.20	7.8	—	—	4.5
<b>MVI 1603</b>	3.00	10.4	—	—	6.0
<b>MVI 1604</b>	4.00	13.7	—	—	7.9
<b>MVI 1605</b>	5.50	—	—	—	10.8
<b>MVI 1606</b>	5.50	—	—	—	10.8
<b>MVI 1607</b>	7.50	—	—	—	13.8
<b>MVI 1608</b>	7.50	—	—	—	13.8
<b>MVI 1609</b>	9.00	—	—	—	17.0
<b>MVI 1610</b>	11.00	—	—	—	20.0
<b>MVI 1611</b>	11.00	—	—	—	20.0
<b>MVI 1612</b>	15.00	—	—	—	26.5
<b>MVI 1613</b>	15.00	—	—	—	26.5
<b>MVI 1614</b>	15.00	—	—	—	26.5
<b>MVI 3202</b>	4.00	14.9	—	—	7.9
<b>MVI 3203</b>	5.50	—	—	—	10.8
<b>MVI 3204</b>	7.50	—	—	—	13.8
<b>MVI 3205</b>	9.00	—	—	—	17.0
<b>MVI 3206</b>	11.00	—	—	—	20.0
<b>MVI 3207</b>	15.00	—	—	—	26.5
<b>MVI 3208</b>	15.00	—	—	—	26.5

# High-pressure multistage centrifugal pumps



Single pumps

## Terminal diagram, motor data Wilo-Multivert MVI 1602 to 5212 C

### Motor data

Wilo Multivert...	Nominal motor power P <sub>2</sub> [kW]	Nominal current approx.	
		I <sub>N</sub> 3~230 V	I <sub>N</sub> (3~400 V, 50 Hz) [A]
		—	
MVI 3209	18.50	—	32.2
MVI 3210	18.50	—	32.2
MVI 3211	22.00	—	38.1
MVI 3212	22.00	—	38.1
MVI 3213	30.00	—	53.0
MVI 5202	5.50	—	10.8
MVI 5203	7.50	—	13.8
MVI 5204	11.00	—	20.0
MVI 5205	15.00	—	26.5
MVI 5206	15.00	—	26.5
MVI 5207	18.50	—	32.2

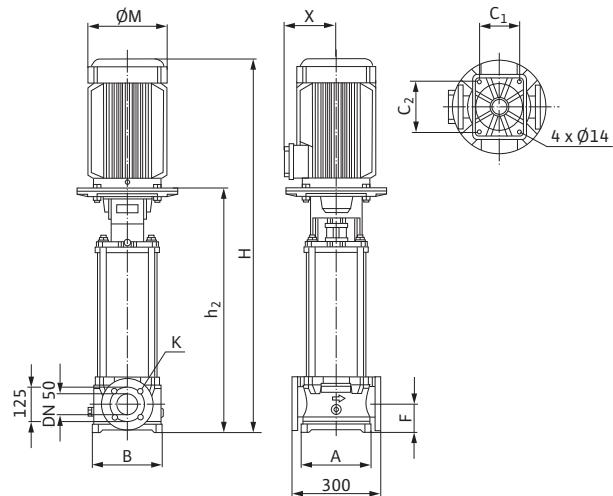
# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1602 – 1614, 3202 – 3213 C, 5202 – 5212 C

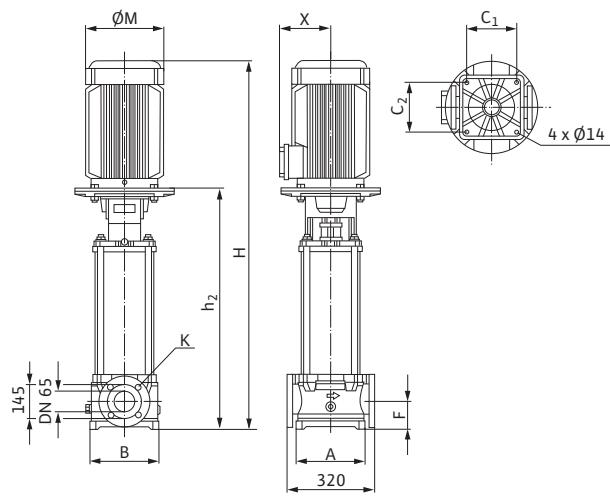
#### Dimension drawing

Wilo-Multivert MVI 1602 – 1614



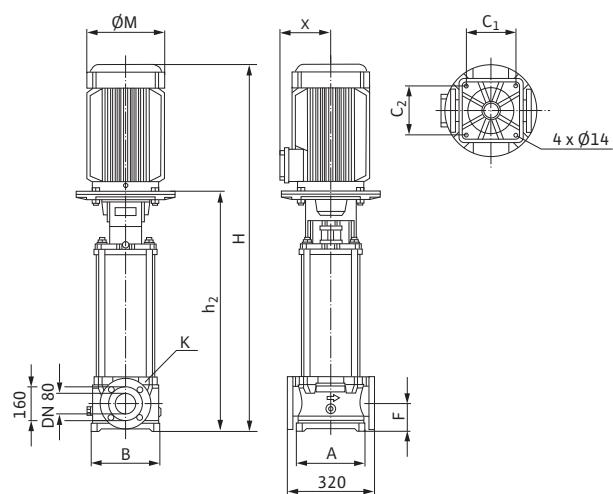
#### Dimension drawing

Wilo-Multivert MVI 3202 – 3213 C



#### Dimension drawing

Wilo-Multivert MVI 5202 C – 5212 C



# High-pressure multistage centrifugal pumps



Single pumps

## Dimensions, weights Wilo-Multivert MVI 1602 – 1614, 3202 – 3213 C, 5202 – 5212 C

### Dimensions, weights – Version PN 16

Wilo Multivert...	Dimensions										Weight approx.
	A	B	C <sub>1</sub>	C <sub>2</sub>	F	H	h <sub>2</sub>	Ø M	X	K <sub>1</sub>	
	[mm]										
<b>MVI 1602</b>	194	252	130	215	90	686.0	419.0	193	151	4x18	58.0
<b>MVI 1603</b>	194	252	130	215	90	724.0	429.0	217	160	4x18	64.3
<b>MVI 1604</b>	194	252	130	215	90	758.5	463.5	217	160	4x18	75.3
<b>MVI 1605</b>	194	252	130	215	90	823.0	498.0	235	168	4x18	81.3
<b>MVI 1606</b>	194	252	130	215	90	857.5	532.5	235	168	4x18	83.3
<b>MVI 1607</b>	194	252	130	215	90	1016.5	621.5	279	179	4x18	107.0
<b>MVI 1608</b>	194	252	130	215	90	1016.5	621.5	279	179	4x18	107.3
<b>MVI 3202</b>	239	235	195	195	105	758.5	440.0	217	160	4x18	79.8
<b>MVI 3203</b>	239	235	195	195	105	811.0	486.0	235	168	4x18	86.3
<b>MVI 3204</b>	239	235	195	195	105	947.0	552.0	279	179	4x18	108.8
<b>MVI 3205</b>	239	235	195	195	105	1043.0	644.0	280	179	4x18	123.3
<b>MVI 3206</b>	239	235	195	195	105	1043.0	644.0	280	179	4x18	123.8
<b>MVI 3207</b>	239	235	195	195	105	1242.0	766.0	325	208	4x18	156.3
<b>MVI 5202</b>	260	260	220	220	105	797.5	472.5	235	168	8x18	88.5
<b>MVI 5203</b>	260	260	220	220	105	949.0	554.0	279	179	8x18	111.7
<b>MVI 5204</b>	260	260	220	220	105	1014.3	615.3	280	179	8x18	124.9
<b>MVI 5205</b>	260	260	220	220	105	1244.0	768.0	325	208	8x18	158.2
<b>MVI 5206</b>	260	260	220	220	105	1244.0	768.0	325	208	8x18	160.5
<b>MVI 5207</b>	260	260	220	220	105	1386.0	890.6	325	235	8x18	180.8

### Dimensions, weights – Version PN 25

Wilo Multivert...	Dimensions										Weight approx.
	A	B	C <sub>1</sub>	C <sub>2</sub>	F	H	h <sub>2</sub>	Ø M	X	K <sub>1</sub>	
	[mm]										
<b>MVI 1602</b>	194	252	130	215	90	686.0	419.0	193	151	4x18	58.0
<b>MVI 1603</b>	194	252	130	215	90	724.0	429.0	217	160	4x18	64.3
<b>MVI 1604</b>	194	252	130	215	90	758.5	463.5	217	160	4x18	75.3
<b>MVI 1605</b>	194	252	130	215	90	823.0	498.0	235	168	4x18	81.3
<b>MVI 1606</b>	194	252	130	215	90	857.5	532.5	235	168	4x18	83.3
<b>MVI 1607</b>	194	252	130	215	90	1016.5	621.5	279	179	4x18	107.0
<b>MVI 1608</b>	194	252	130	215	90	1016.5	621.5	279	179	4x18	107.3
<b>MVI 1609</b>	194	252	130	215	90	1089.5	690.5	280	179	4x18	121.4
<b>MVI 1610</b>	194	252	130	215	90	1089.5	690.5	280	179	4x18	121.7
<b>MVI 1611</b>	194	252	130	215	90	1158.5	759.5	280	179	4x18	125.4
<b>MVI 1612</b>	194	252	130	215	90	1265.5	789.5	325	208	4x18	153.7
<b>MVI 1613</b>	194	252	130	215	90	1334.5	858.5	325	208	4x18	157.4
<b>MVI 1614</b>	194	252	130	215	90	1334.5	858.5	325	208	4x18	157.7
<b>MVI 3202</b>	262	260	220	220	120	758.5	455.0	217	160	8x18	83.8
<b>MVI 3203</b>	262	260	220	220	120	826.0	501.0	235	168	8x18	90.3
<b>MVI 3204</b>	262	260	220	220	120	962.0	567.0	279	179	8x18	112.8
<b>MVI 3205</b>	262	260	220	220	120	1058.0	659.0	280	179	8x18	127.3
<b>MVI 3206</b>	262	260	220	220	120	1058.0	659.0	280	179	8x18	127.8

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 1602 – 1614, 3202 – 3213 C, 5202 – 5212 C

Dimensions, weights – Version PN 25											Weight approx.
Wilo Multivert...	Dimensions										Weight approx.
	A	B	C <sub>1</sub>	C <sub>2</sub>	F	H	h <sub>2</sub>	Ø M	X	K <sub>1</sub>	
	[mm]										
<b>MVI 3207</b>	262	260	220	220	120	1257.0	781.0	325	208	8x18	160.3
<b>MVI 3208</b>	262	260	220	220	120	1257.0	781.0	325	208	8x18	160.8
<b>MVI 3209</b>	262	260	220	220	120	1322.0	827.0	325	235	8x18	178.9
<b>MVI 3210</b>	262	260	220	220	120	1460.0	965.0	325	235	8x18	185.4
<b>MVI 3211</b>	262	260	220	220	120	1484.0	965.0	370	248	8x18	209.9
<b>MVI 3212</b>	262	260	220	220	120	1484.0	965.0	370	248	8x18	210.4
<b>MVI 3213</b>	262	260	220	220	120	1774.0	1175.0	415	255	8x18	275.9
<b>MVI 5202</b>	260	260	220	220	105	872.0	472.0	279	160	8x18	–
<b>MVI 5203</b>	260	260	220	220	105	949.0	554.0	279	179	8x18	111.7
<b>MVI 5204</b>	260	260	220	220	105	1014.3	615.3	280	179	8x18	124.9
<b>MVI 5205</b>	260	260	220	220	105	1244.0	768.0	325	208	8x18	158.2
<b>MVI 5206</b>	260	260	220	220	105	1244.0	768.0	325	208	8x18	160.5
<b>MVI 5207</b>	260	260	220	220	105	1386.0	890.6	325	235	8x18	180.8
<b>MVI 5208</b>	260	260	220	220	105	1409.0	890.6	370	248	8x18	205.9
<b>MVI 5209</b>	260	260	220	220	105	1471.0	952.0	370	248	8x18	209.1
<b>MVI 5210</b>	260	260	220	220	105	1853.0	1254.0	415	255	8x18	277.5
<b>MVI 5211</b>	260	260	220	220	105	1853.0	1254.0	415	255	8x18	278.6
<b>MVI 5212</b>	260	260	220	220	105	1853.0	1254.0	415	255	8x18	279.7

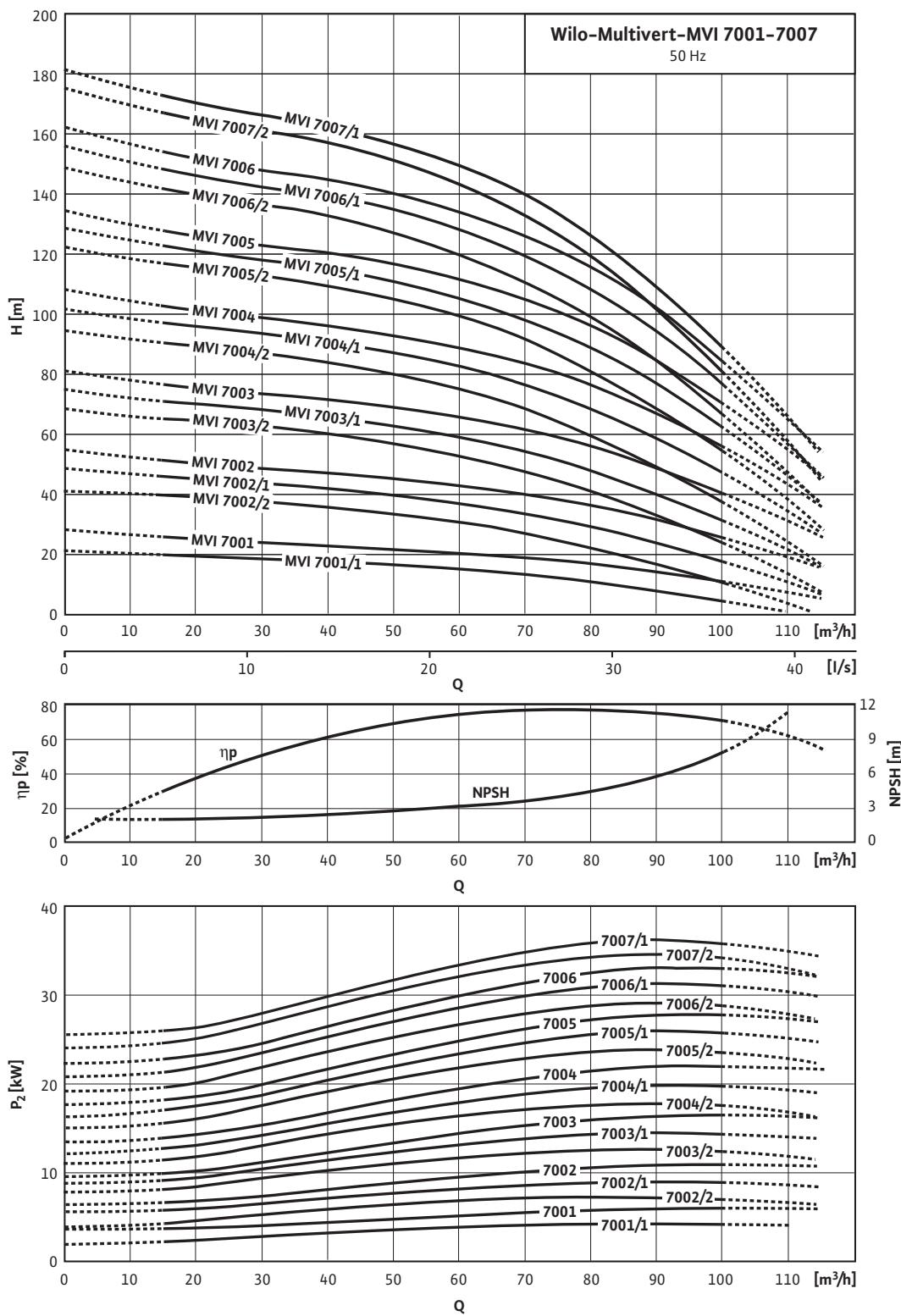
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVI 7001 to 7007

Wilo-Multivert MVI 7001 – 7007



Pump curves in accordance with ISO 9906, class 2

Single pumps

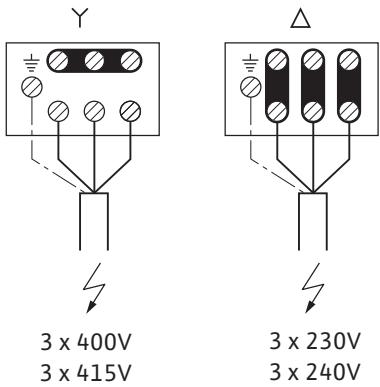
# High-pressure multistage centrifugal pumps

## Single pumps

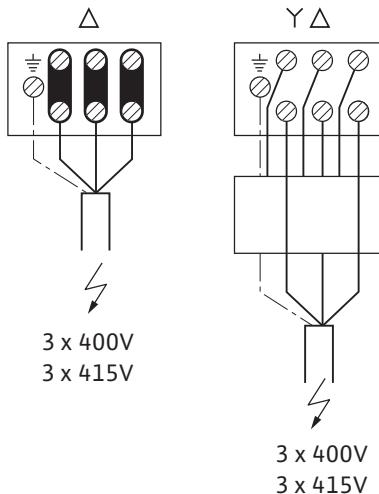
### Terminal diagram, motor data Wilo-Multivert MVI 7001 to 7007

#### Terminal diagram

MOT. 230 – 400V 240 – 415V  
 < 4kW



MOT. 400VD 415VD  
 > 4kW



#### Motor data

Wilo Multivert...	Nominal motor power		Nominal current approx.		Nominal current
	$P_2$		$I_{N3 \sim 230 V}$		$I_N$ (3~400 V, 50 Hz)
	[kW]	[A]	[A]	[A]	[A]
<b>MVI 7001/1</b>	4.00	13.8	—	—	7.9
<b>MVI 7001</b>	5.50	—	—	—	10.8
<b>MVI 7002/2</b>	7.50	—	—	—	13.8
<b>MVI 7002/1</b>	9.00	—	—	—	17.0
<b>MVI 7002</b>	11.00	—	—	—	20.0
<b>MVI 7003/2</b>	15.00	—	—	—	26.5
<b>MVI 7003/1</b>	15.00	—	—	—	26.5
<b>MVI 7003</b>	18.50	—	—	—	32.2
<b>MVI 7004</b>	18.50	—	—	—	32.2
<b>MVI 7004/1</b>	22.00	—	—	—	38.1
<b>MVI 7004</b>	22.00	—	—	—	38.1
<b>MVI 7005/2</b>	30.00	—	—	—	53.0
<b>MVI 7005/1</b>	30.00	—	—	—	53.0
<b>MVI 7005</b>	30.00	—	—	—	53.0
<b>MVI 7006/2</b>	30.00	—	—	—	53.0
<b>MVI 7006/1</b>	37.00	—	—	—	64.5
<b>MVI 7006</b>	37.00	—	—	—	64.5
<b>MVI 7007/2</b>	37.00	—	—	—	64.5
<b>MVI 7007/1</b>	37.00	—	—	—	64.5

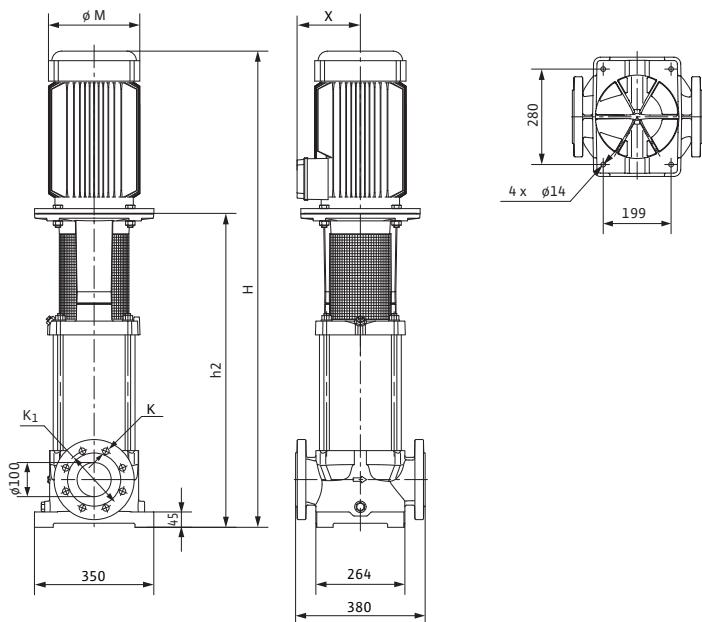
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Dimensions, weights Wilo-Multivert MVI 7001 to 7007

### Dimension drawing



Single pumps

### Dimensions, weights – Version PN 16

Wilo Multivert...	Dimensions						Weight approx. [kg]
	H	h <sub>2</sub>	Ø M	X	K	K <sub>1</sub>	
	[mm]						
MVI 7001/1	831	539	217	160	180	8x19	102.0
MVI 7001	875	539	235	168	180	8x19	106.0
MVI 7002/2	1005	644	279	182	180	8x19	130.0
MVI 7002/1	1040	644	280	182	180	8x19	140.0
MVI 7002	1040	644	280	182	180	8x19	140.0
MVI 7003/2	1318	842	325	208	180	8x19	172.0
MVI 7003/1	1318	842	325	208	180	8x19	172.0
MVI 7003	1337	842	325	235	180	8x19	187.0
MVI 7004/2	1422	927	325	235	180	8x19	191.0
MVI 7004/1	1446	927	370	249	180	8x19	214.0
MVI 7004	1446	927	370	249	180	8x19	214.0
MVI 7005/2	1611	1012	415	255	180	8x19	265.0
MVI 7005/1	1611	1012	415	255	180	8x19	265.0
MVI 7005	1611	1012	415	255	180	8x19	265.0

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 7001 to 7007

Dimensions, weights – Version PN 25							
Wilo Multivert...	Dimensions						Weight approx.
	H	h <sub>2</sub>	Ø M	X	K	K <sub>1</sub>	
	[mm]						
<b>MVI 7001/1</b>	831	539	217	160	140	8x23	102.0
<b>MVI 7001</b>	875	539	235	168	140	8x23	106.0
<b>MVI 7002/2</b>	1005	644	279	182	140	8x23	130.0
<b>MVI 7002/1</b>	1040	644	280	182	140	8x23	140.0
<b>MVI 7002</b>	1040	644	280	182	140	8x23	140.0
<b>MVI 7003/2</b>	1318	842	325	208	140	8x23	172.0
<b>MVI 7003/1</b>	1318	842	325	208	140	8x23	172.0
<b>MVI 7003</b>	1337	842	325	235	140	8x23	187.0
<b>MVI 7004</b>	1422	927	325	235	140	8x23	191.0
<b>MVI 7004/1</b>	1446	927	370	249	140	8x23	214.0
<b>MVI 7004</b>	1446	927	370	249	140	8x23	214.0
<b>MVI 7005/2</b>	1611	1012	415	255	140	8x23	265.0
<b>MVI 7005/1</b>	1611	1012	415	255	140	8x23	265.0
<b>MVI 7005</b>	1611	1012	415	255	140	8x23	265.0
<b>MVI 7006/2</b>	1696	1097	415	255	140	8x23	269.0
<b>MVI 7006/1</b>	1718	1097	415	275	140	8x23	291.0
<b>MVI 7006</b>	1718	1097	415	275	140	8x23	291.0
<b>MVI 7007/2</b>	1803	1182	415	275	140	8x23	295.0
<b>MVI 7007/1</b>	1803	1182	415	275	140	8x23	295.0

# High-pressure multistage centrifugal pumps

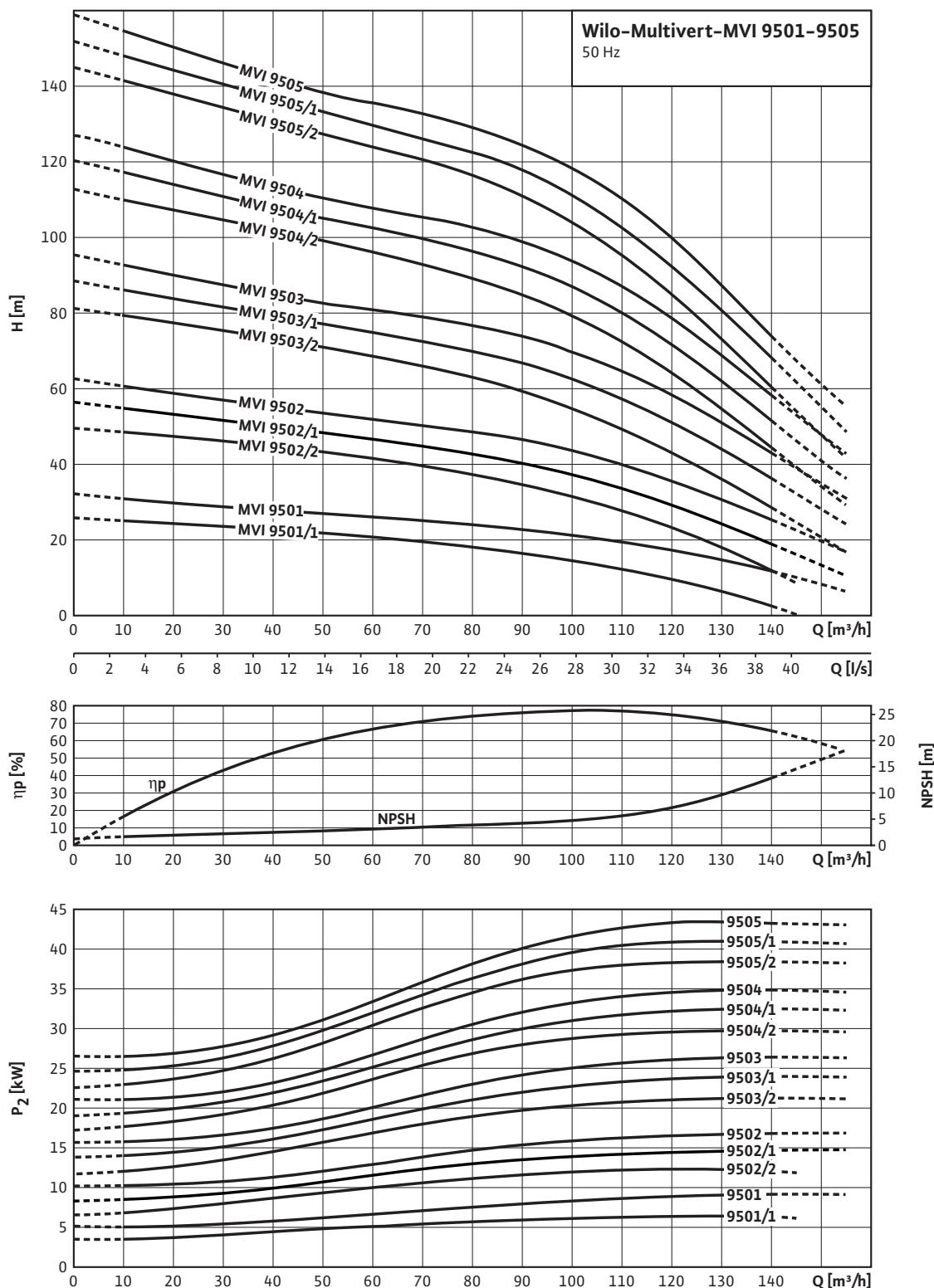
**WILO**

Single pumps

## Pump curves Wilo-Multivert MVI 9501 to 9505

### Wilo-Multivert MVI 9501 – 9505

2-pole, 50 Hz



Pump curves in accordance with ISO 9906, class 2

Single pumps

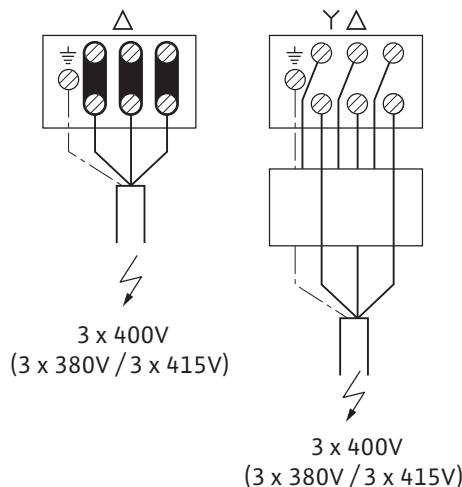
# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVI 9501 to 9505

#### Terminal diagram

MOT. 400VD (380VD / 415VD)  
> 4kW



#### Motor data

Wilo Multivert...	Nominal motor power		Nominal current	
	P <sub>2</sub> [kW]		I <sub>N</sub> (3~400 V, 50 Hz)	[A]
<b>MVI 9501/1</b>	7.50		13.80	
<b>MVI 9501</b>	9.00		17.00	
<b>MVI 9502/2</b>	15.00		26.50	
<b>MVI 9502/1</b>	15.00		26.50	
<b>MVI 9502</b>	18.50		32.20	
<b>MVI 9503/2</b>	22.00		38.10	
<b>MVI 9503/1</b>	30.00		53.00	
<b>MVI 9503</b>	30.00		53.00	
<b>MVI 9504/2</b>	30.00		53.00	
<b>MVI 9504/1</b>	37.00		64.50	
<b>MVI 9504</b>	37.00		64.50	
<b>MVI 9505/2</b>	45.00		79.00	
<b>MVI 9505/1</b>	45.00		79.00	
<b>MVI 9505</b>	45.00		79.00	

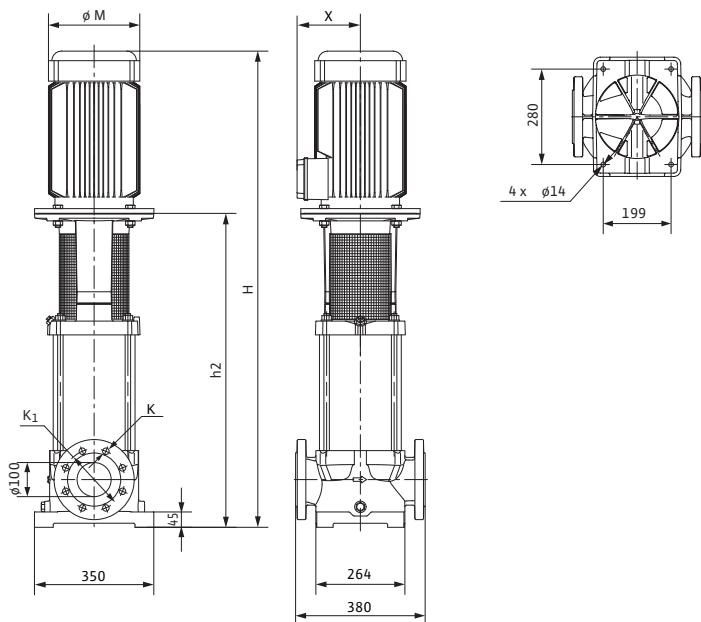
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Dimensions, weights Wilo-Multivert MVI 9501 to 9505

### Dimension drawing



Single pumps

### Dimensions, weights – Version PN 16

Wilo Multivert...	Dimensions						Weight approx. [kg]
	H	h <sub>2</sub>	Ø M	X	K	K <sub>1</sub>	
	[mm]						
MVI 9501/1	933	572	279	182	180	8x19	115.0
MVI 9501	968	572	280	182	180	8x19	125.0
MVI 9502/2	1259	783	325	208	180	8x19	170.0
MVI 9502/1	1259	783	325	208	180	8x19	170.0
MVI 9502	1278	783	325	235	180	8x19	185.0
MVI 9503/2	1400	881	370	249	180	8x19	212.5
MVI 9503/1	1480	881	415	255	180	8x19	259.5
MVI 9503	1480	881	415	255	180	8x19	259.5
MVI 9504/2	1578	979	415	255	180	8x19	264.5
MVI 9504/1	1600	979	415	275	180	8x19	286.5
MVI 9504	1600	979	415	275	180	8x19	286.5

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVI 9501 to 9505

Dimensions, weights – Version PN 25							
Wilo Multivert...	Dimensions						Weight approx.
	H	h <sub>2</sub>	Ø M	X	K	K <sub>1</sub>	
	[mm]						
<b>MVI 9501/1</b>	933	572	279	182	190	8x23	126.0
<b>MVI 9501</b>	968	572	280	182	190	8x23	136.0
<b>MVI 9502/2</b>	1259	783	325	208	190	8x23	170.0
<b>MVI 9502/1</b>	1259	783	325	208	190	8x23	170.0
<b>MVI 9502</b>	1278	783	325	235	190	8x23	185.0
<b>MVI 9503/2</b>	1400	881	370	249	190	8x23	212.5
<b>MVI 9503/1</b>	1480	881	415	255	190	8x23	259.5
<b>MVI 9503</b>	1480	881	415	255	190	8x23	259.5
<b>MVI 9504/2</b>	1578	979	415	255	190	8x23	264.5
<b>MVI 9504/1</b>	1600	979	415	275	190	8x23	286.5
<b>MVI 9504</b>	1600	979	415	275	190	8x23	286.5
<b>MVI 9505/2</b>	1704	1077	456	275	190	8x23	321.0
<b>MVI 9505/1</b>	1704	1077	456	275	190	8x23	321.0
<b>MVI 9505</b>	1704	1077	456	275	190	8x23	321.0

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series description Wilo-Multivert MVIE



#### Design

Non-self-priming multistage pump with integrated frequency converter

#### Application

- Water supply and pressure boosting
- Fire extinguishing systems
- Industrial circulation systems
- Process engineering
- Cooling water circulation systems
- Washing and sprinkling systems

#### Type key

##### MVIE 1.. up to MVIE 52..

Example: **MVIE 1602/6-1/16/E/3-400-50-2**

<b>MVIE</b>	Multistage vertical high-pressure centrifugal pump, electronically controlled
<b>16</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>6</b>	Only with MVI 16..: 6 = 6" hydraulics - = 8" hydraulics
<b>1</b>	Material 1 = 1.4301 (AISI 304) 2 = 1.4404 (AISI 316L) 3 = pump base EN-GJL-250 (cataphoretic coating), hydraulics 1.4301 (AISI 304)
<b>16</b>	Flange type 16 = flange PN16 (round or oval) 25 = flange PN25 (round or oval) P = Victaulic coupling
<b>E</b>	Seal type E = EPDM V = Viton
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

##### MVIE 70.. to MVIE 95..

Example: **MVIE 7003/1-3/16/E/3-2**

<b>MVIE</b>	Multistage vertical high-pressure centrifugal pump
<b>70</b>	Volume flow in m <sup>3</sup> /h

<b>03</b>	Number of impellers
<b>1</b>	Number of trimmed impellers
<b>3</b>	Material 3 = pump base EN-GJL-250 (cataphoretic coating), hydraulics 1.4301 (AISI 304); seal EPDM
<b>16</b>	Flange type 16 = flange PN16 (round) 25 = flange PN25 (round)
<b>E</b>	Seal type E = EPDM
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>2</b>	Number of poles

#### Special features/product benefits

- Easy commissioning
- Integrated frequency converter
- Full motor protection
- Wide control range
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304) or 1.4404 (AISI 316 L)
- All relevant components are KTW- and WRAS-certified

#### Technical data

- Mains connection 3~400 V / 50 Hz (Y) or 400 V / 60 Hz (Y)
- Fluid temperature -15 to +120 °C
- Max. operating pressure 16 bar or 25 bar
- Max. inlet pressure 10 bar
- Protection class IP 54 or IP 55

#### Materials

- Impellers stainless steel 1.4301/1.4404
- Stage chambers stainless steel 1.4301/1.4404
- Pump housing EN-GJL-250 / 1.4404
- Shaft, depending on type, stainless steel 1.4057 / 1.4404
- Seal EPDM (EP 851) / Viton
- Housing cover stainless steel 1.4301 / 1.4404
- Lower housing section stainless steel 1.4301 / 1.4404
- Mechanical seal B-carbon/tungsten carbide, SiC/carbon
- Pressure shroud stainless steel 1.4301 / 1.4404
- Bearing tungsten carbide
- Pump base EN-GJL-250 / 1.4408, depending on type

#### Scope of delivery

- Pump
- Oval counter flanges Rp 1 to Rp 1 1/2 (only with PN 16 version)
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Multivert MVIE

	Wilo-Multivert MVIE 2/4/8/16-6	Wilo-Multivert MVIE 16/32/52	Wilo-Multivert MVIE 70/95
<b>Materials</b>			
Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	–	•	•
Parts in contact with fluid in 1.4301 (AISI 304)	•	•	–
Parts in contact with fluid in 1.4404 (AISI 316L)	•	•	–
<b>Seal version</b>			
Seal	EPDM/Viton	EPDM/Viton	EPDM
<b>Hydraulic connection</b>			
Threaded connection	–	–	–
Oval flange	•	–	–
Round flange	•	•	•
Victaulic quick coupling	•	–	–
<b>Motor version</b>			
Individual motors	–	–	–
1~230 V, 50 Hz	• (only versions 2../4..)	–	–
3~230 V, 50 Hz	–	–	–
3~400 V, 50 Hz	–	–	–
3~500 V, 50 Hz	–	–	–
1~110 V, 60 Hz	–	–	–
1~220 V, 60 Hz	–	–	–
3~380 V, 60 Hz	–	–	–
3~400 V, 60 Hz	–	–	–
3~440 V, 60 Hz	–	–	–
3~460 V, 60 Hz	–	–	–
3~480 V, 60 Hz	–	–	–
3~380 V to 440 V and 50 Hz to 60 Hz	•	•	•
Protection class	IP 54	IP 54	IP 54
Explosion protection	–	–	–
Motors with PTC thermistors	•	•	•
Motors with UL certificates	–	–	–
Motors with CSA certificates	–	–	–
Thermal motor protection switch	•	•	–
Speed can be controlled via external FC	–	–	–
Integrated frequency converter	•	•	•
<b>Painting</b>			
Individual painting	•	•	•

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Overview of versions Wilo-Multivert MVIE

	Wilo-Multivert MVIE 2/4/8/16-6	Wilo-Multivert MVIE 16/32/52	Wilo-Multivert MVIE 70/95
<b>Mechanical seal</b>			
Tungsten carbide/carbon	•	•	•
SIC/carbon	–	•	–
Tungsten carbide/tungsten carbide	optional	optional	optional
SIC/SIC	optional	optional	optional
<b>Potable water approvals</b>			
KTW	• (only EPDM version)	• (only EPDM version)	• (only EPDM version)
WRAS	• (only EPDM version)	• (only EPDM version)	• (only EPDM version)

• = available, – = not available

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Multivert MVIE

	Wilo-Multivert MVIE ...											
	2..	4..	8..	16..-6	16..	32..	52..	70..	95..			
<b>Approved fluids</b>												
Potable water, heating water, process water	•	•	•	•	•	•	•	•	•			
Condensate	•	•	•	•	•	•	•	•	•			
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•	•	•	•	•	•	•			
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•	•	•	•	•	•	•			
<b>Power</b>												
Max. volume flow [m <sup>3</sup> /h]	7.0	11.0	20.0	34.0	34.0	65.0	98.0	110.0	145.0			
Max. delivery head [m]	235	230	190	110	250	185	150	100	75			
Fluid temperature	-15 °C ... 120 °C											
Max. ambient temperature	40	40	40	40	40	40	40	40	40			
Operating pressure	16/25	16/25	16/25	16/25	16/25	16/25	16/25	16/25	16/25			
Inlet pressure	10	10	10	10	10	10	10	10	10			
Nominal speed	2900	2900	2900	2900	2900	2900	2900	2900	2900			
<b>Motor</b>												
Mains connection 1~ (permitted voltage tolerance +/- 10%)	230 V, 50 Hz or 230 V, 60 Hz											
Mains connection 3~ (permitted voltage tolerance +/- 10%)	400 V, 50 Hz Y or 400 V, 60 Hz Y											
Insulation class	F	F	F	F	F	F	F	F	F			
Emitted interference	EN 50081-2; EN 50081-1 optional											
Interference resistance	EN 50082-2											
Protection class	IP 55	IP 55	IP 55	IP 55	IP 54	IP 54	IP 54	IP 54	IP 54			
<b>Connections</b>												
Flange connections PN 16/PN 25	25	32	40	50	50	65	80	100	100			
Victral connections	•	•	•	•	•	•	•	•	•			
<b>Materials</b>												
Impeller (standard)	1.4301/1.4404			1.43041	1.4301/1.4404			1.4301				
Stage chambers	1.4301/1.4404			1.43041	1.4301/1.4404			1.4401				
Pump housing	1.4301/1.4404							1.4301				
Pump shaft	-											
Seal	EPDM/Viton							EPDM				
Housing cover	1.4301/1.4404							1.4301				
Lower housing section	1.4301/1.4404				-							
Mechanical seal	Tungsten carbide/carbon/ SiC/carbon											

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo-Multivert MVIE

	Wilo-Multivert MVIE ...								
	2..	4..	8..	16..-6	16..	32..	52..	70..	95..
Pressure shroud	1.4301/1.4404								
Bearing	Tungsten carbide								
Pump base	EN-GJL-250				FGL 250/316				
Pump base (in contact with the fluid)	-				EN-GJL-250				

\* = available, - = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

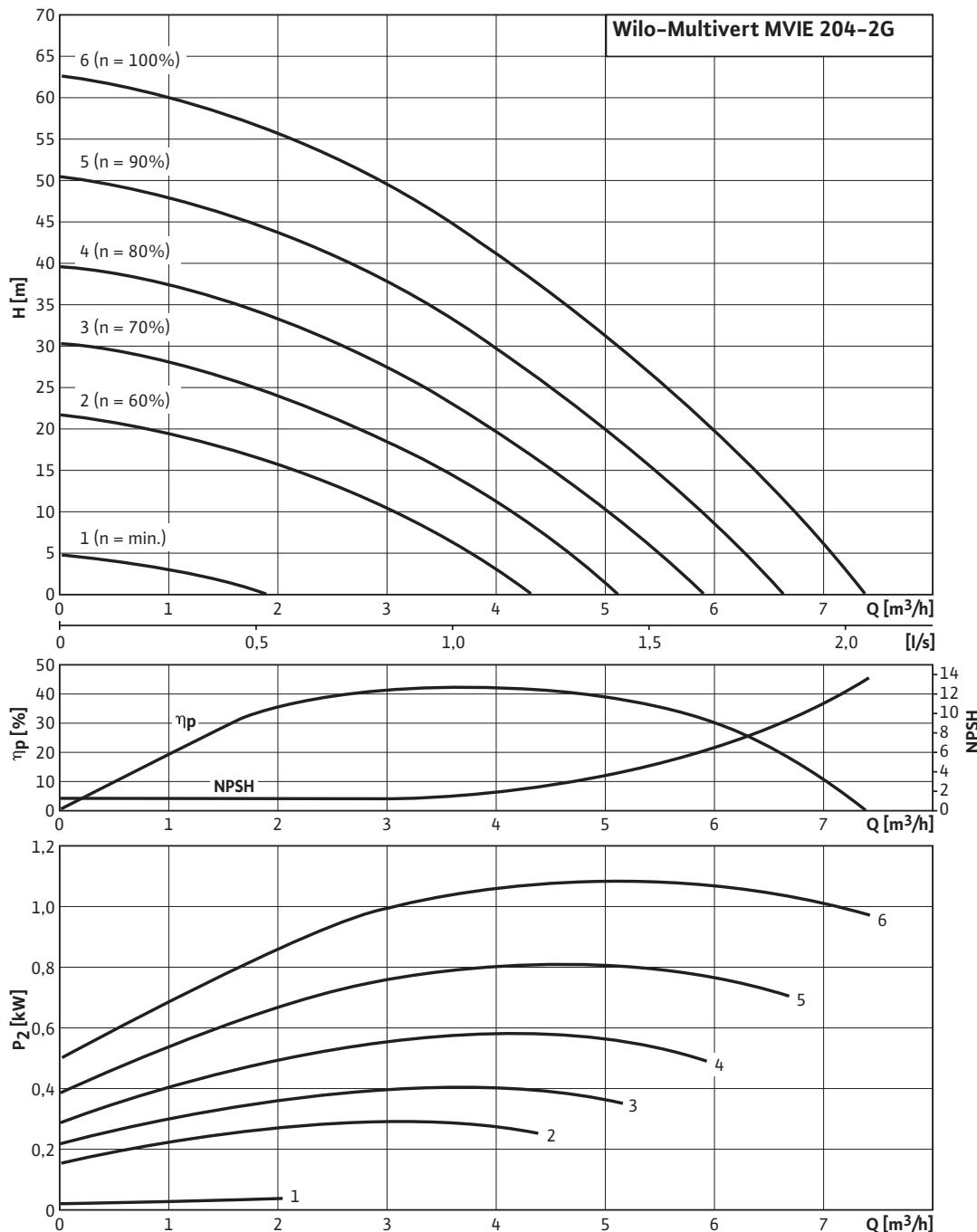
1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 204-2G



Pump curves in accordance with ISO 9906, class 2

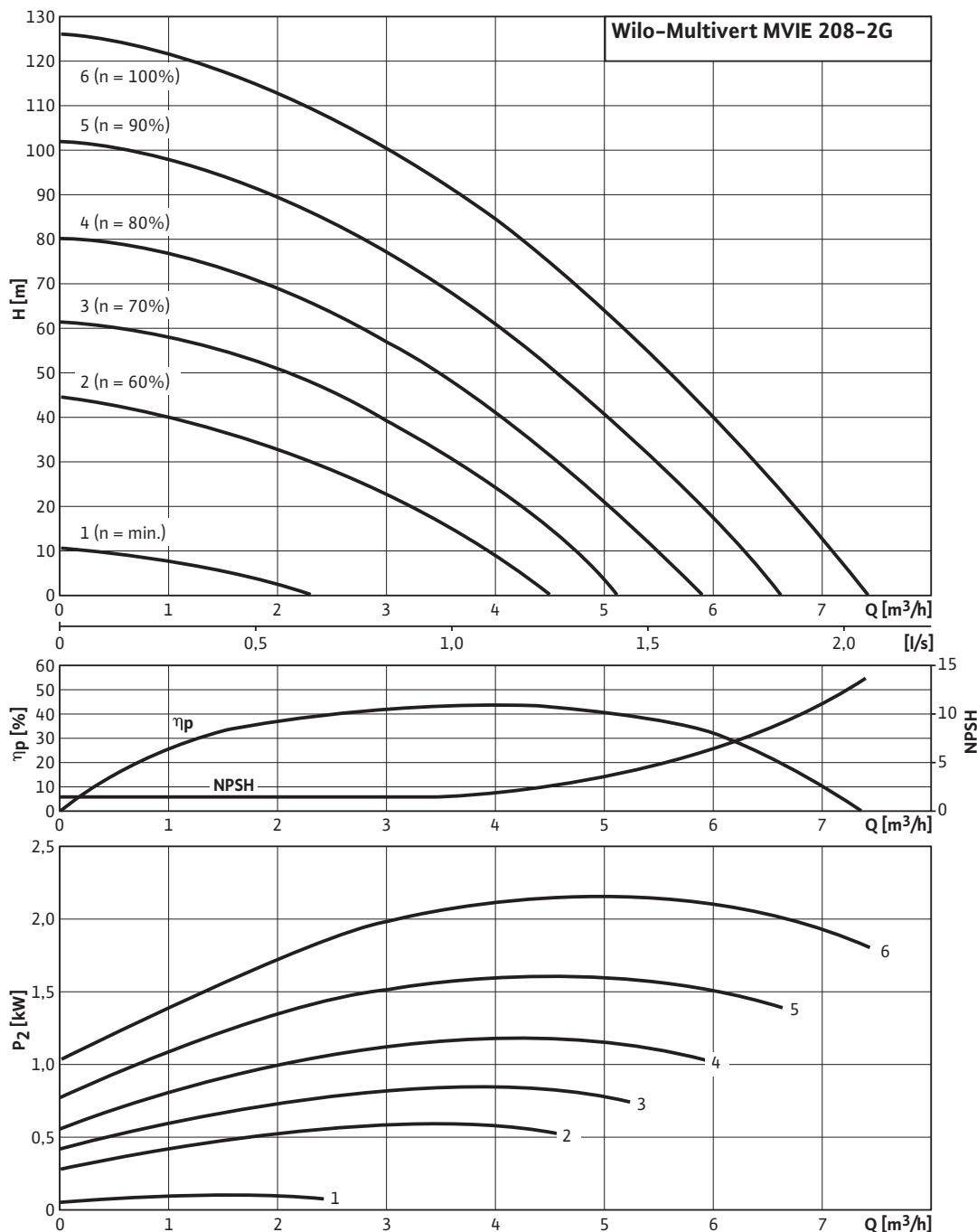
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 208-2G



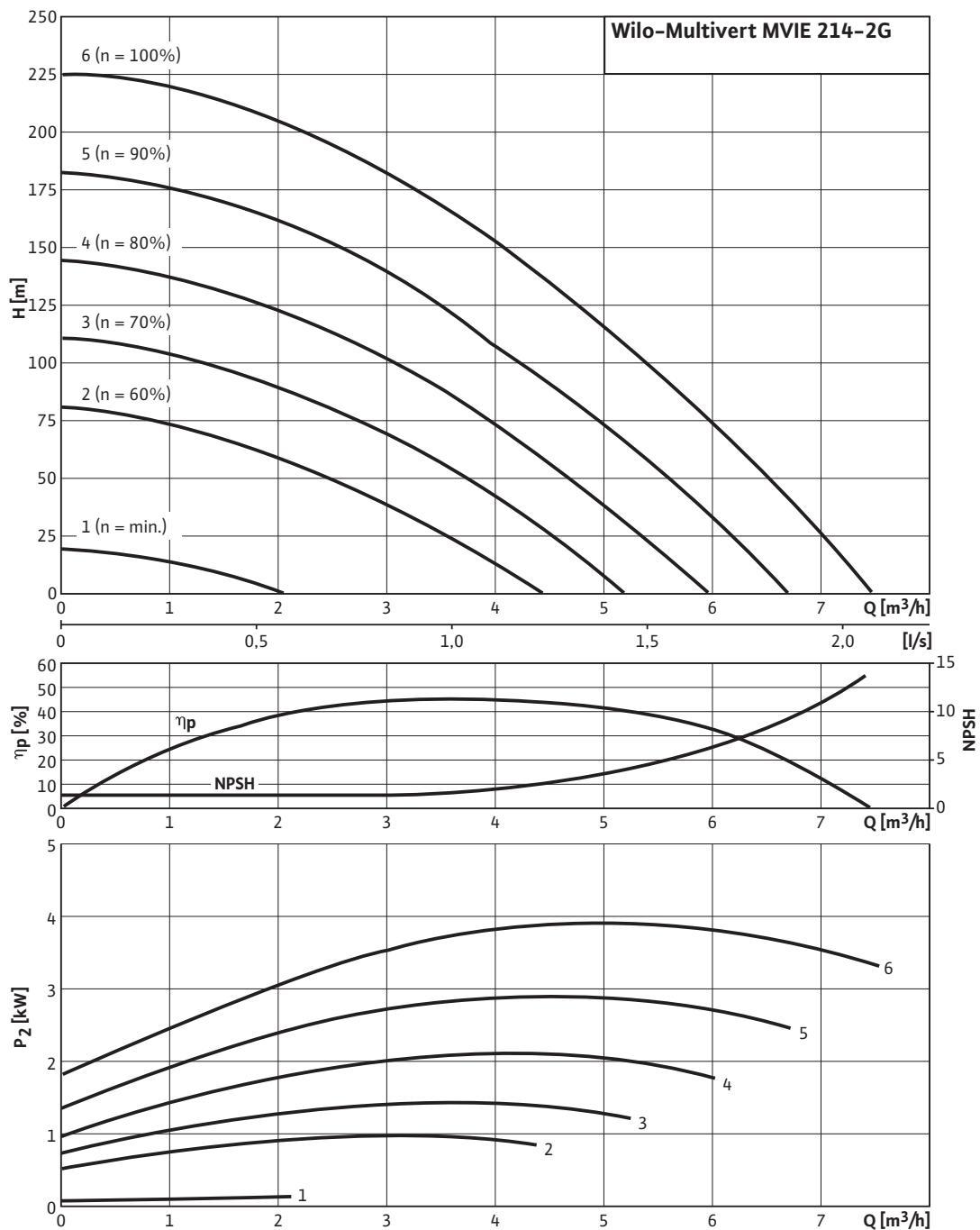
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 214-2G



Pump curves in accordance with ISO 9906, class 2

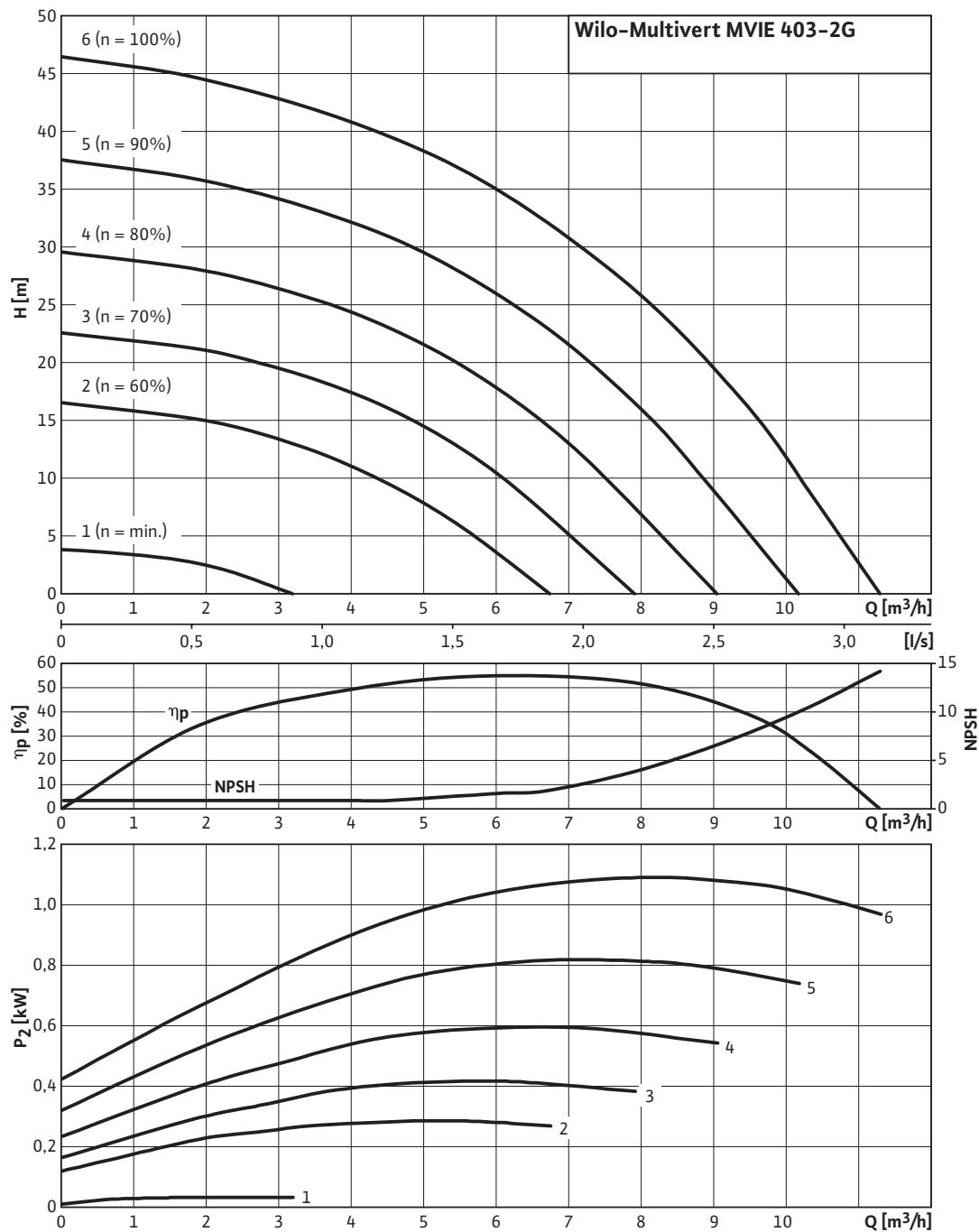
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

### Wilo-Multivert MVIE 403-2G



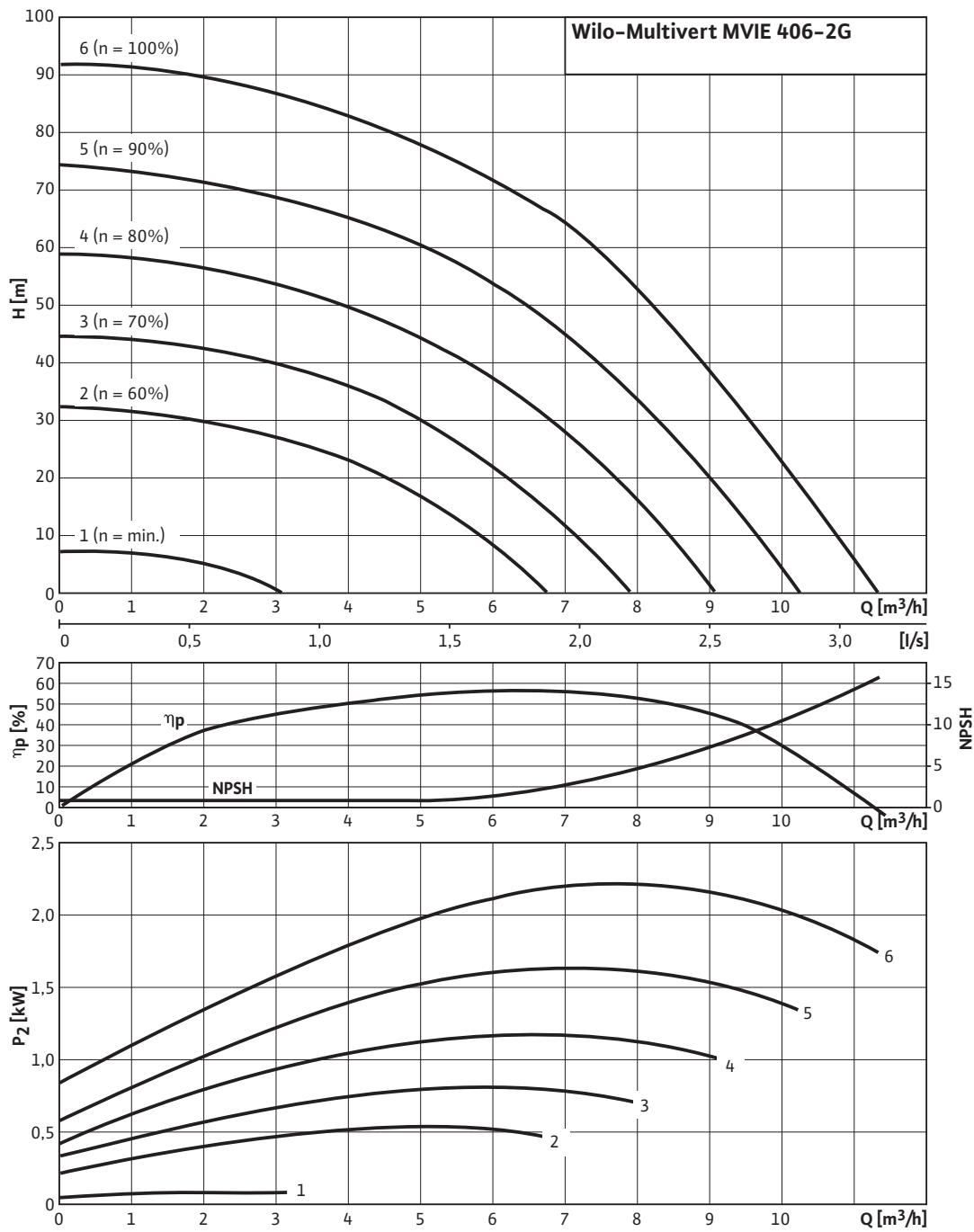
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 406-2G



Pump curves in accordance with ISO 9906, class 2

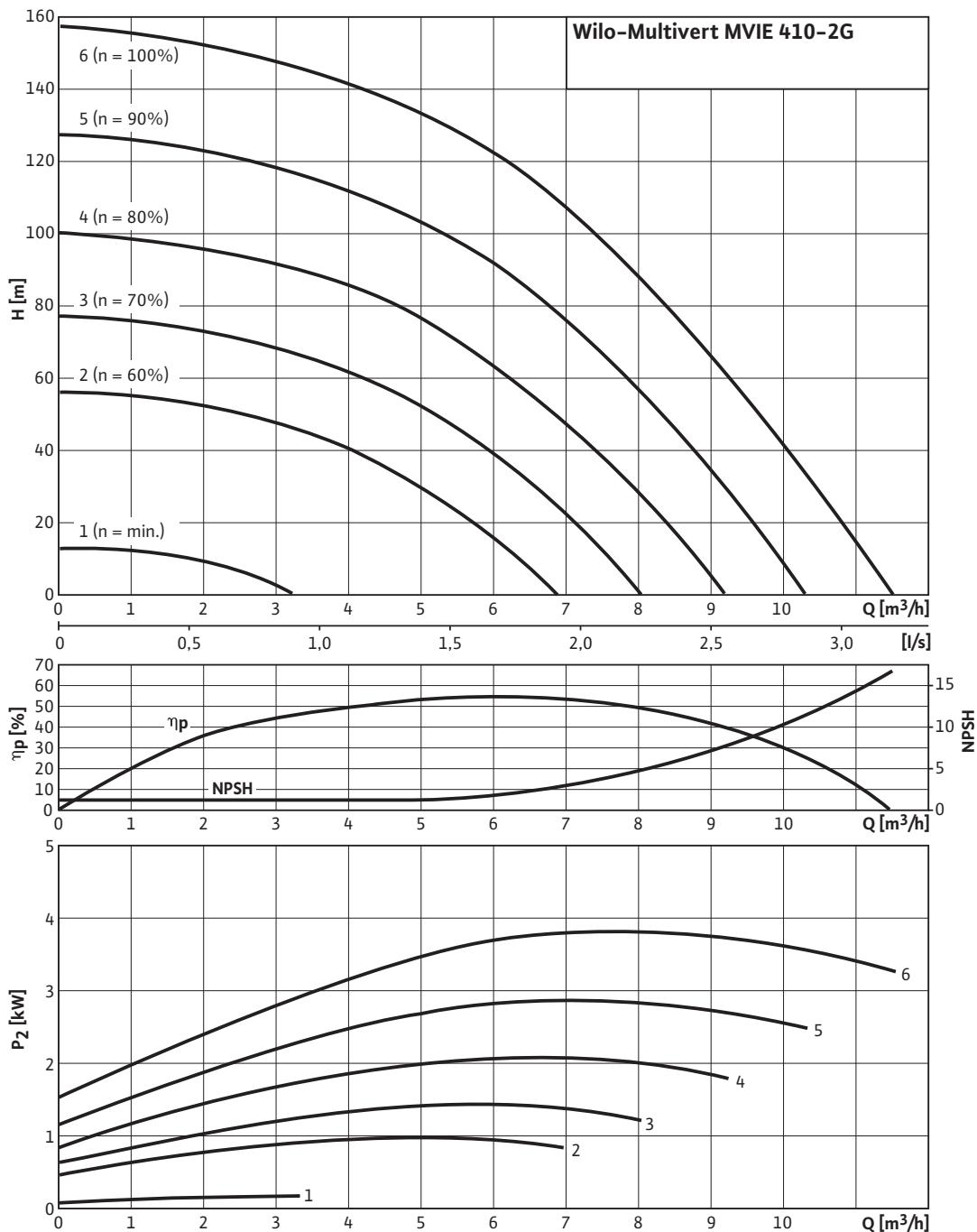
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

### Wilo-Multivert MVIE 410-2G



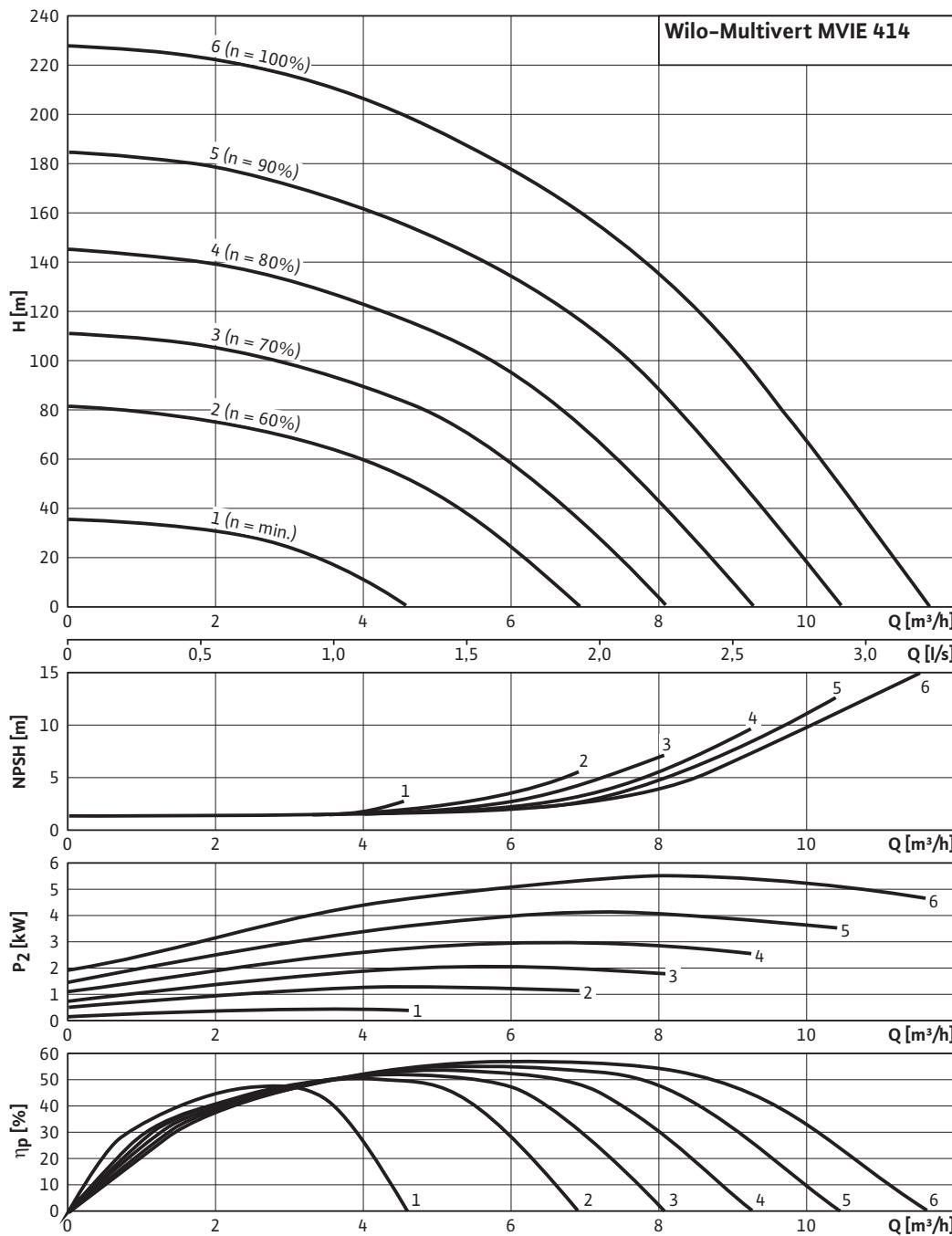
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 414



Pump curves in accordance with ISO 9906, class 2

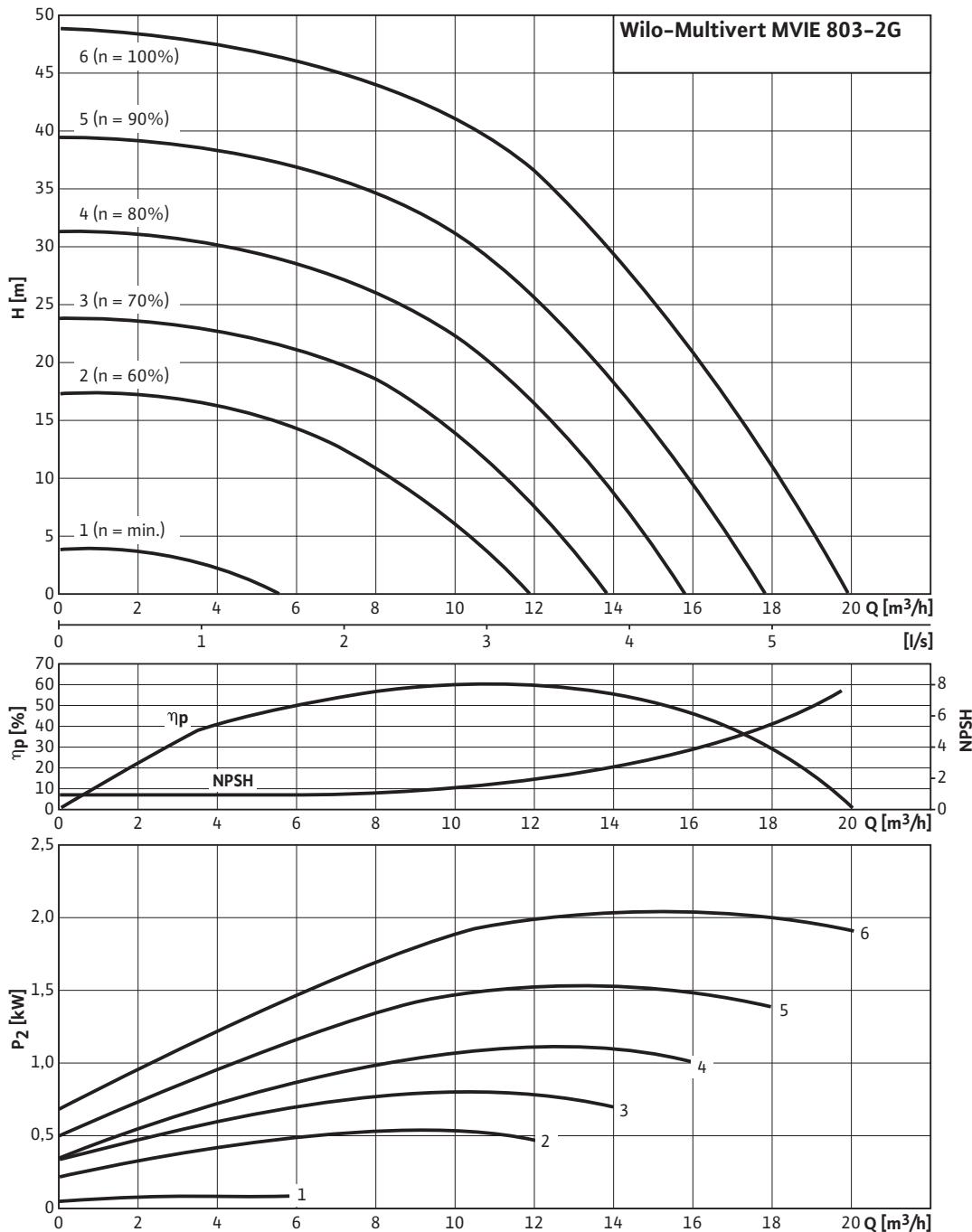
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

### Wilo-Multivert MVIE 803-2G



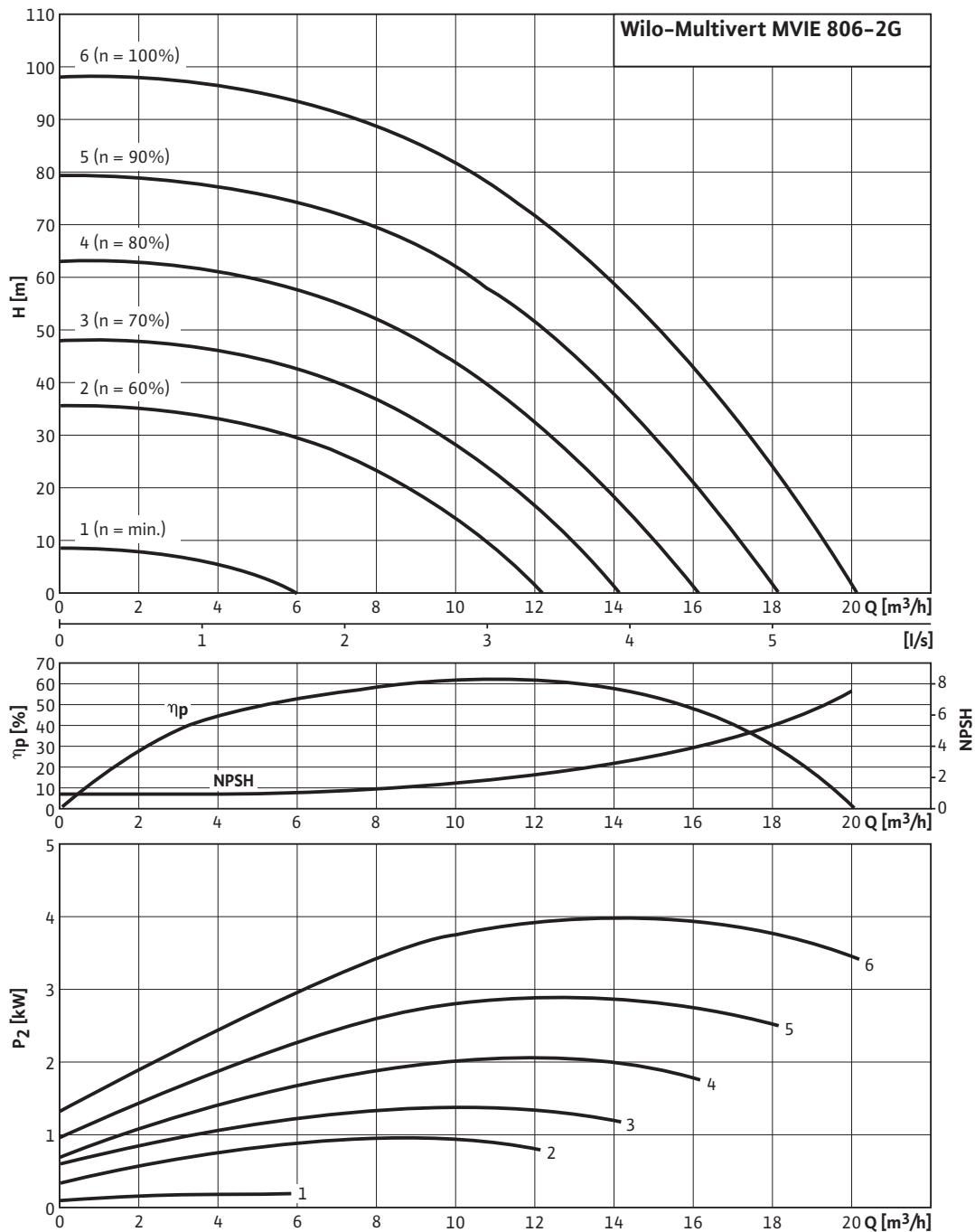
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 806-2G



Pump curves in accordance with ISO 9906, class 2

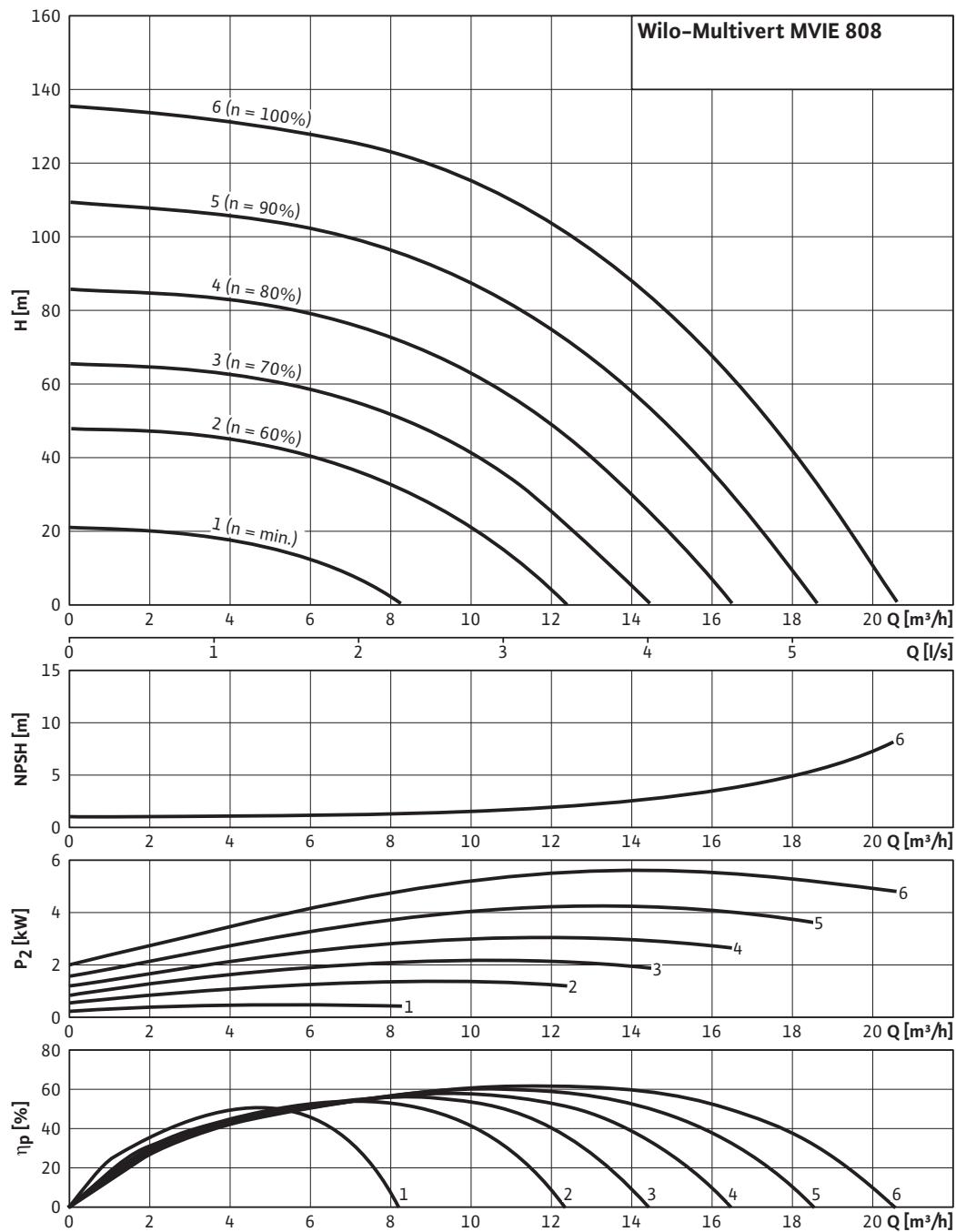
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

### Wilo-Multivert MVIE 808



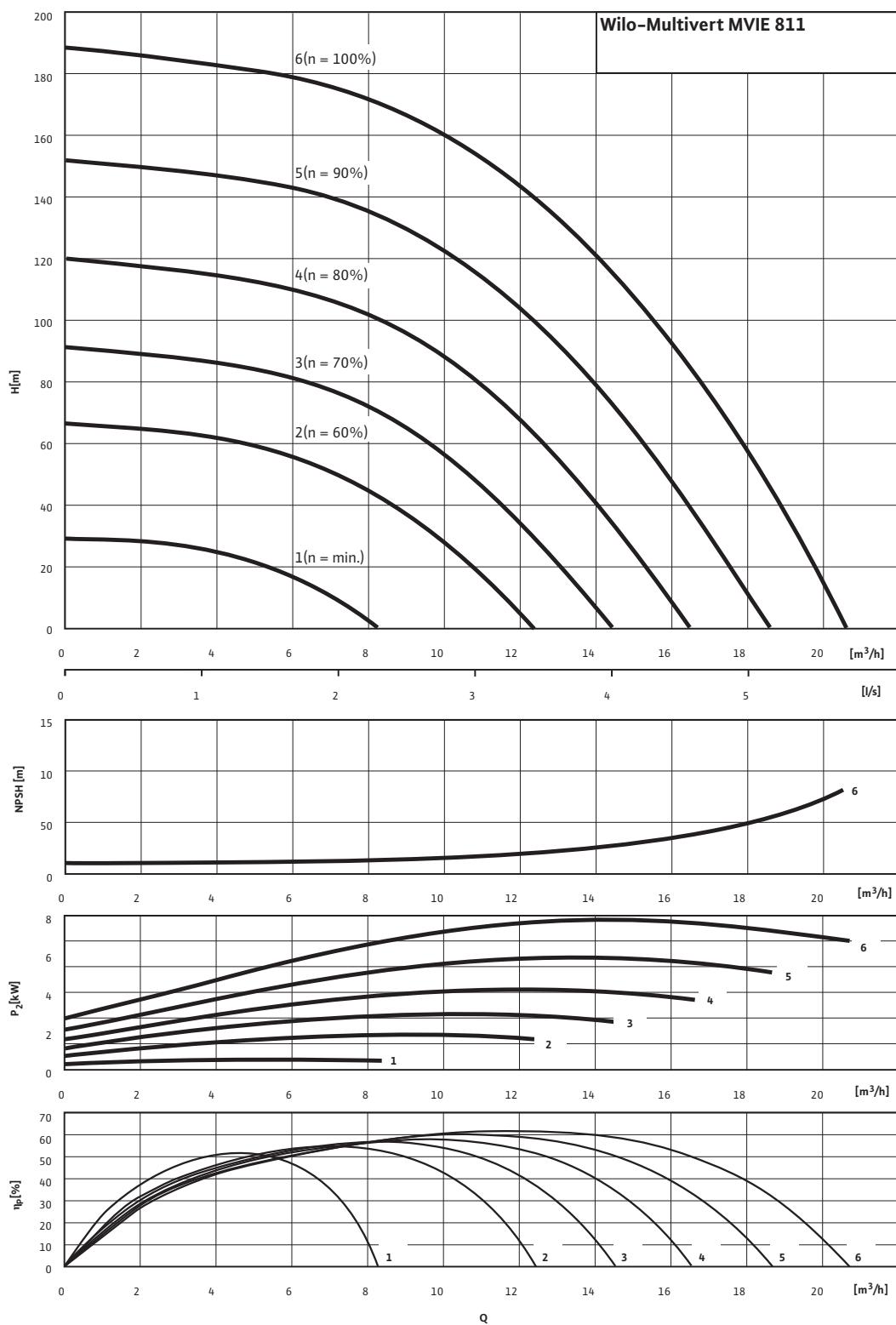
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 811



Pump curves in accordance with ISO 9906, class 2

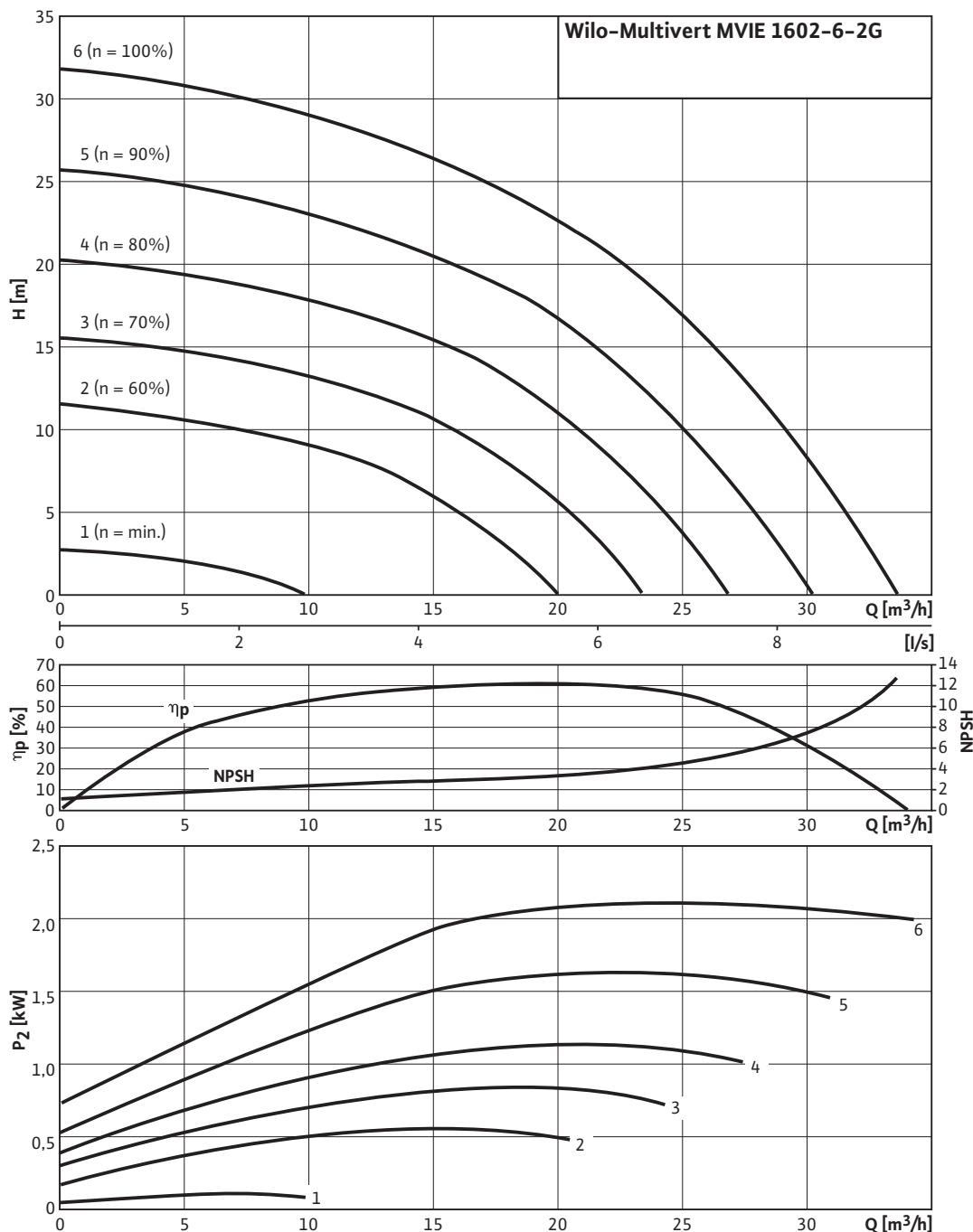
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 1602-6-2G



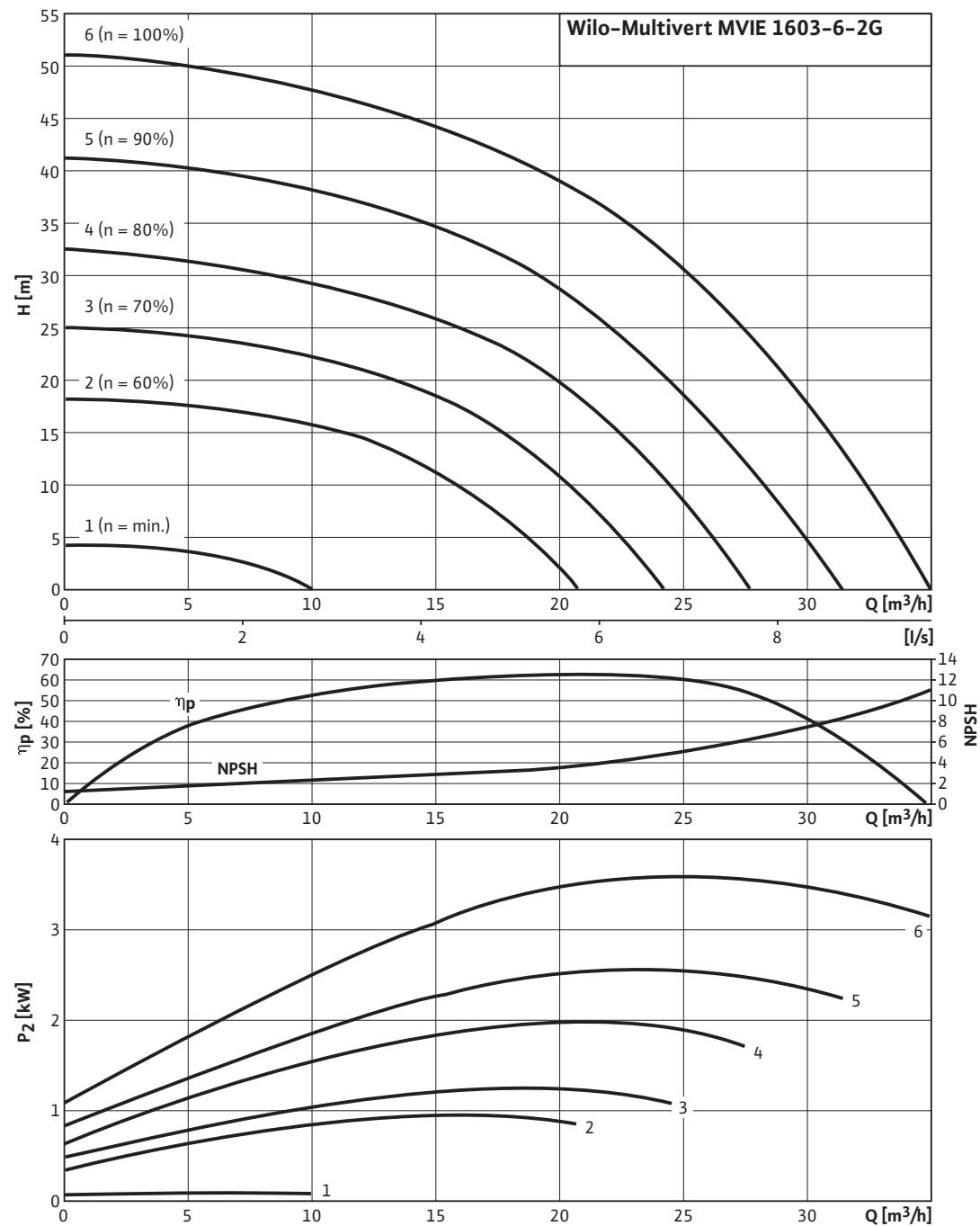
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 1603-6-2G



Pump curves in accordance with ISO 9906, class 2

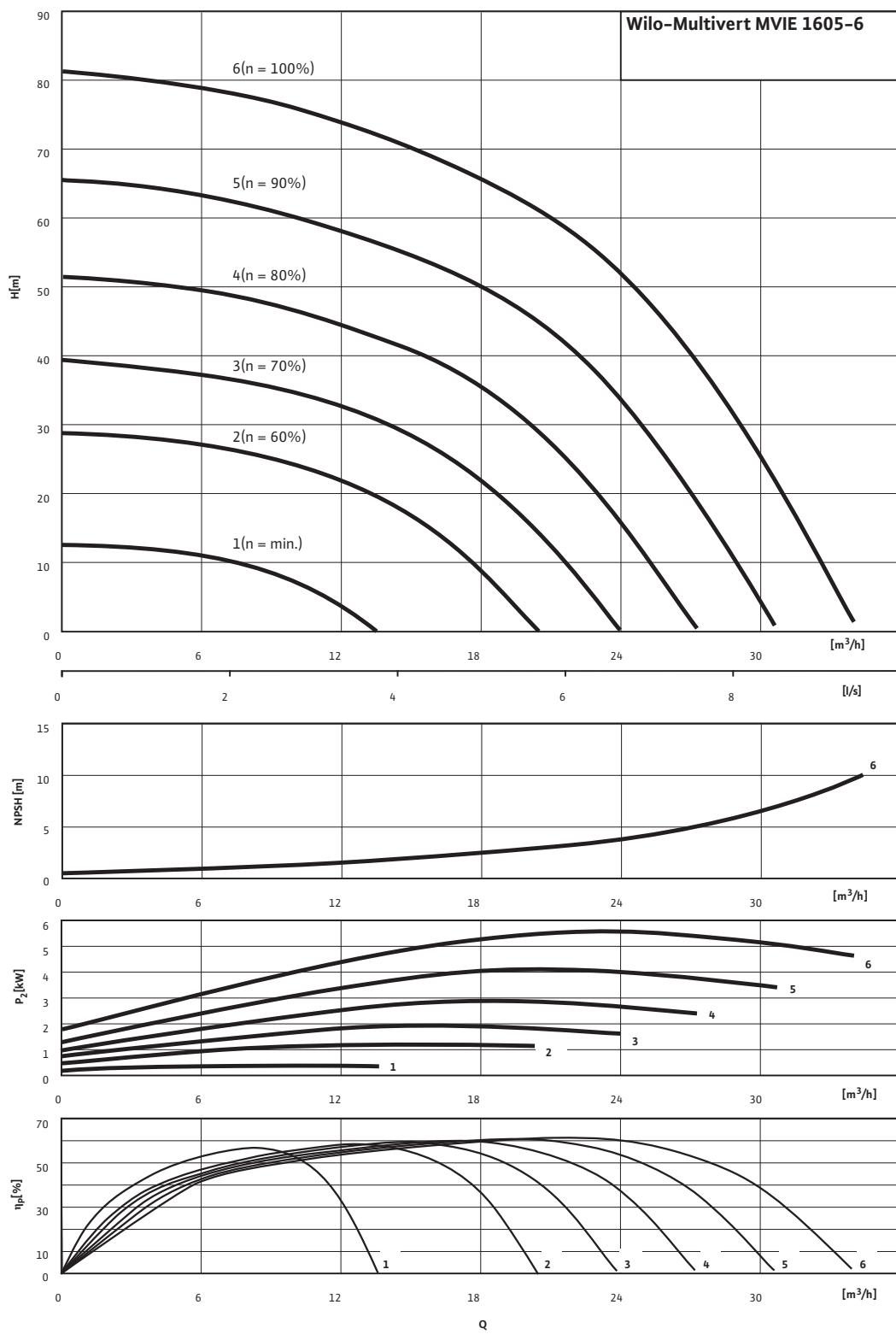
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 1605-6



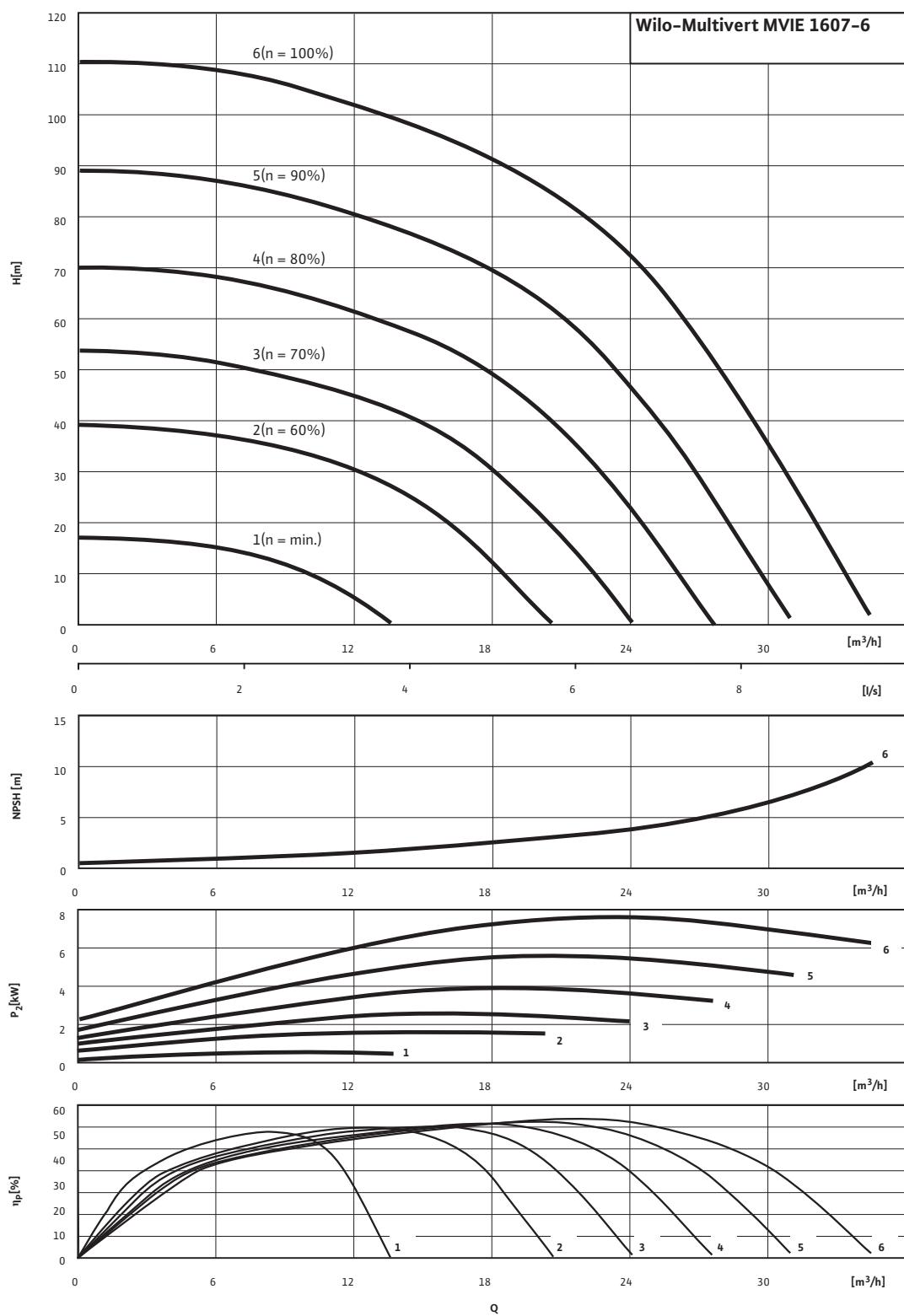
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 1607-6



Pump curves in accordance with ISO 9906, class 2

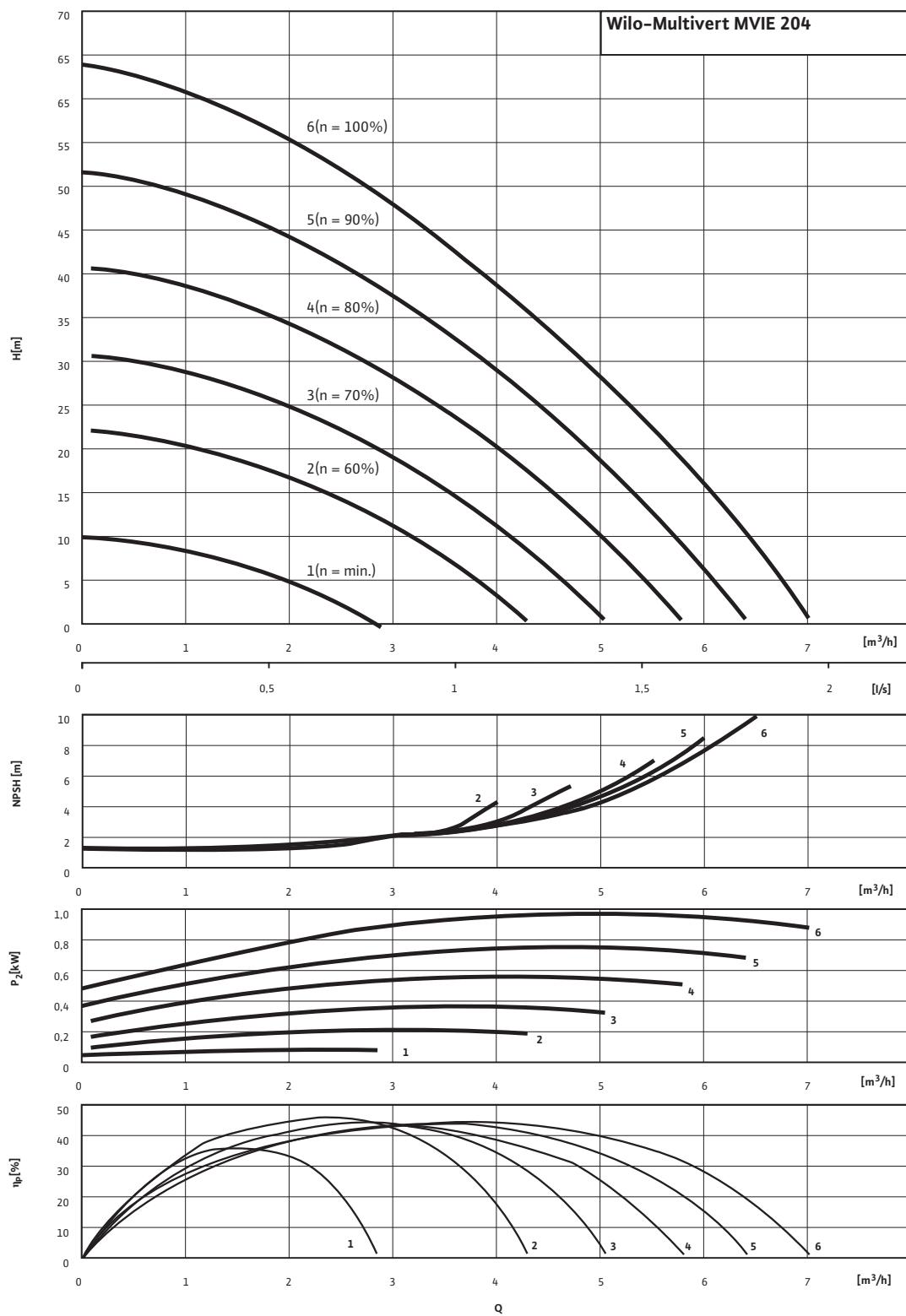
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 204



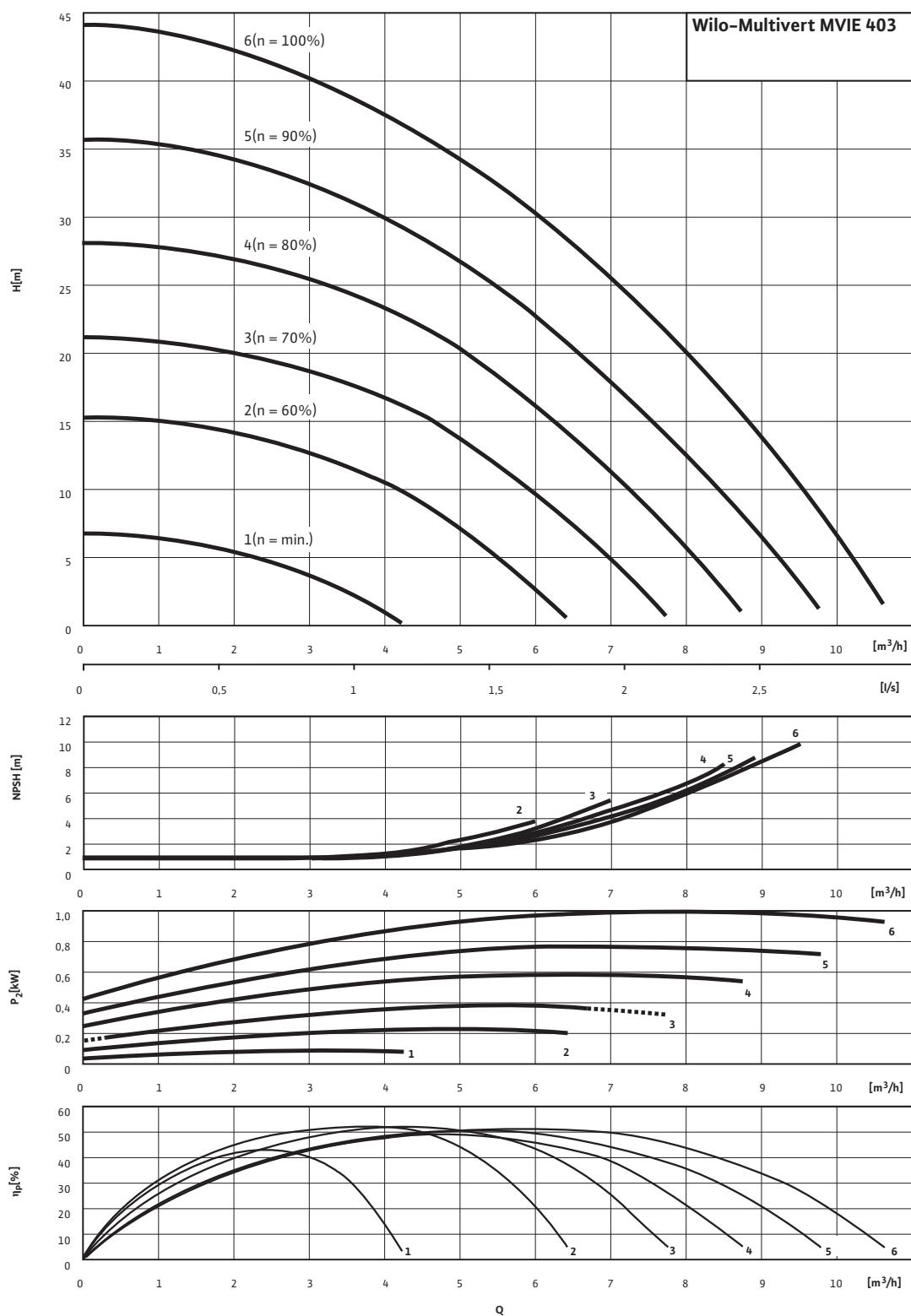
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 403



Pump curves in accordance with ISO 9906, class 2

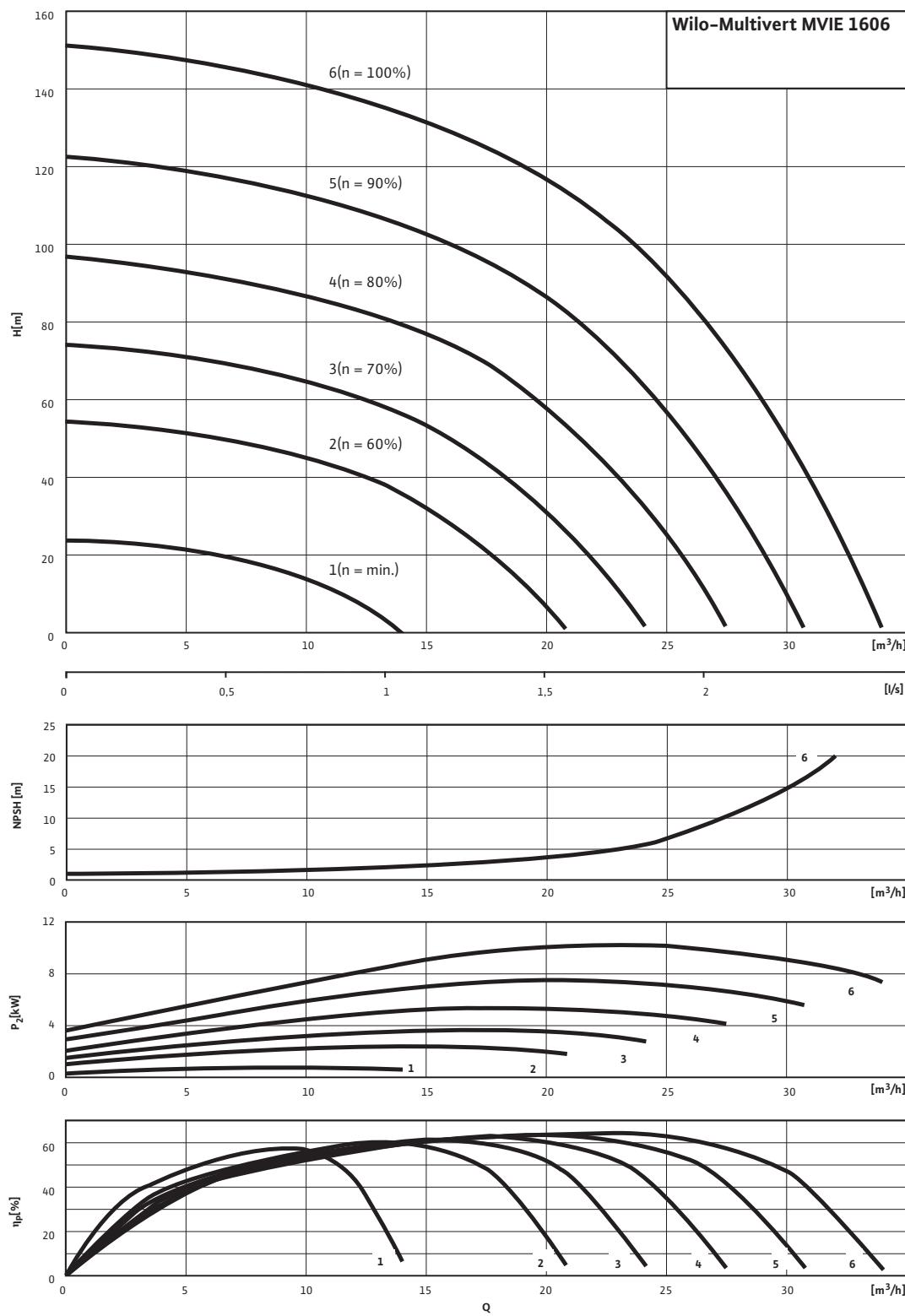
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 1606



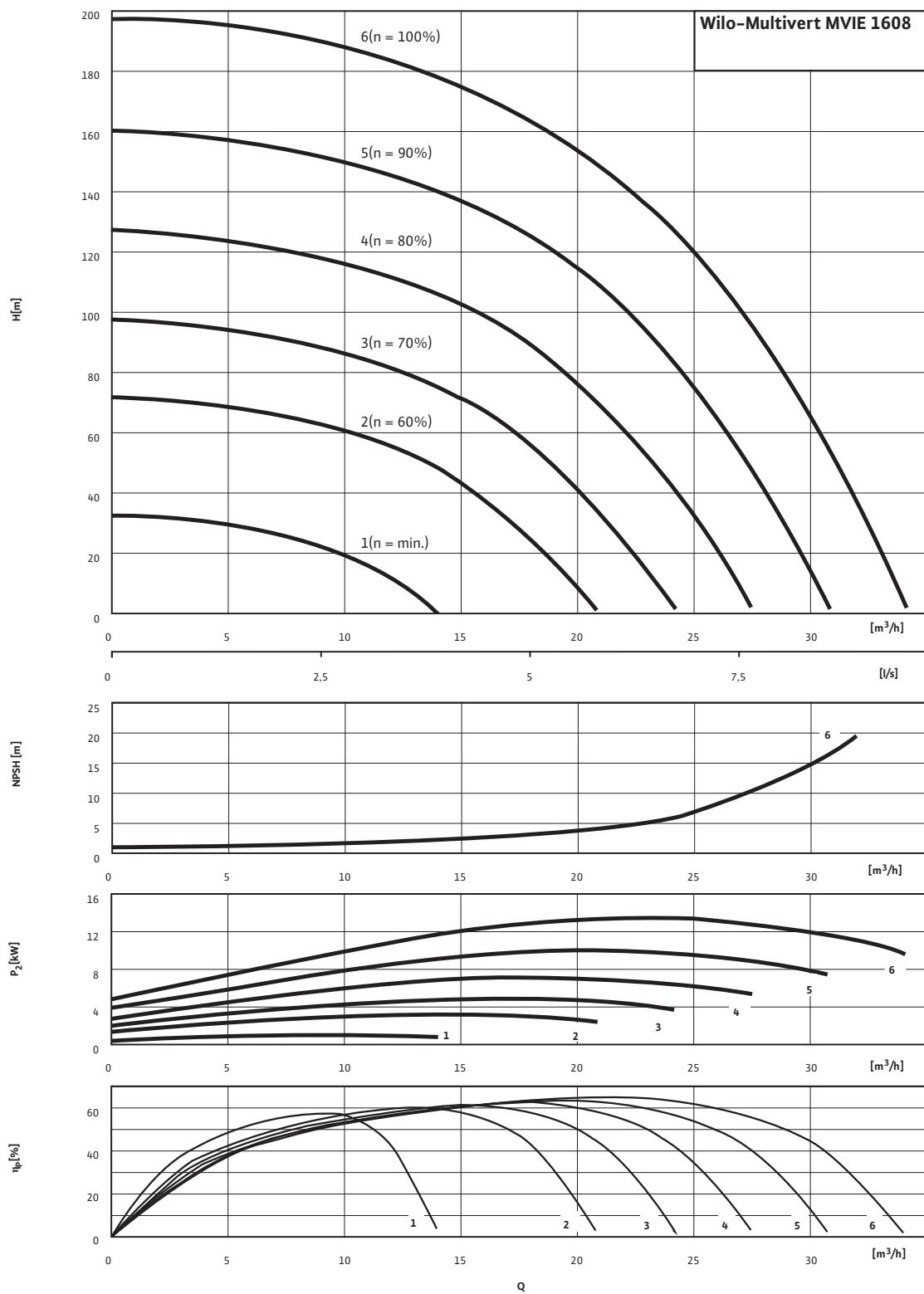
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 1608



Pump curves in accordance with ISO 9906, class 2

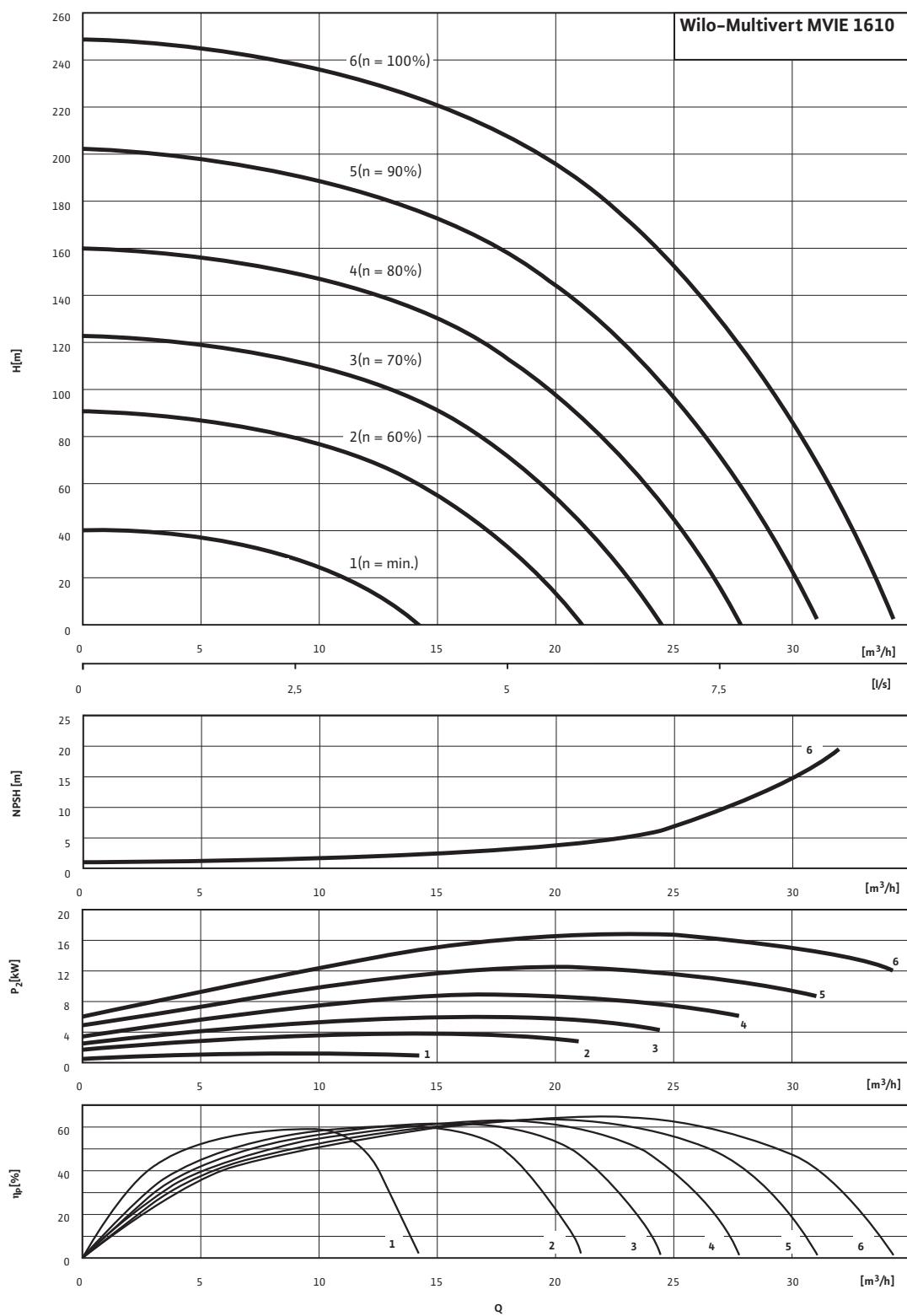
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 1610



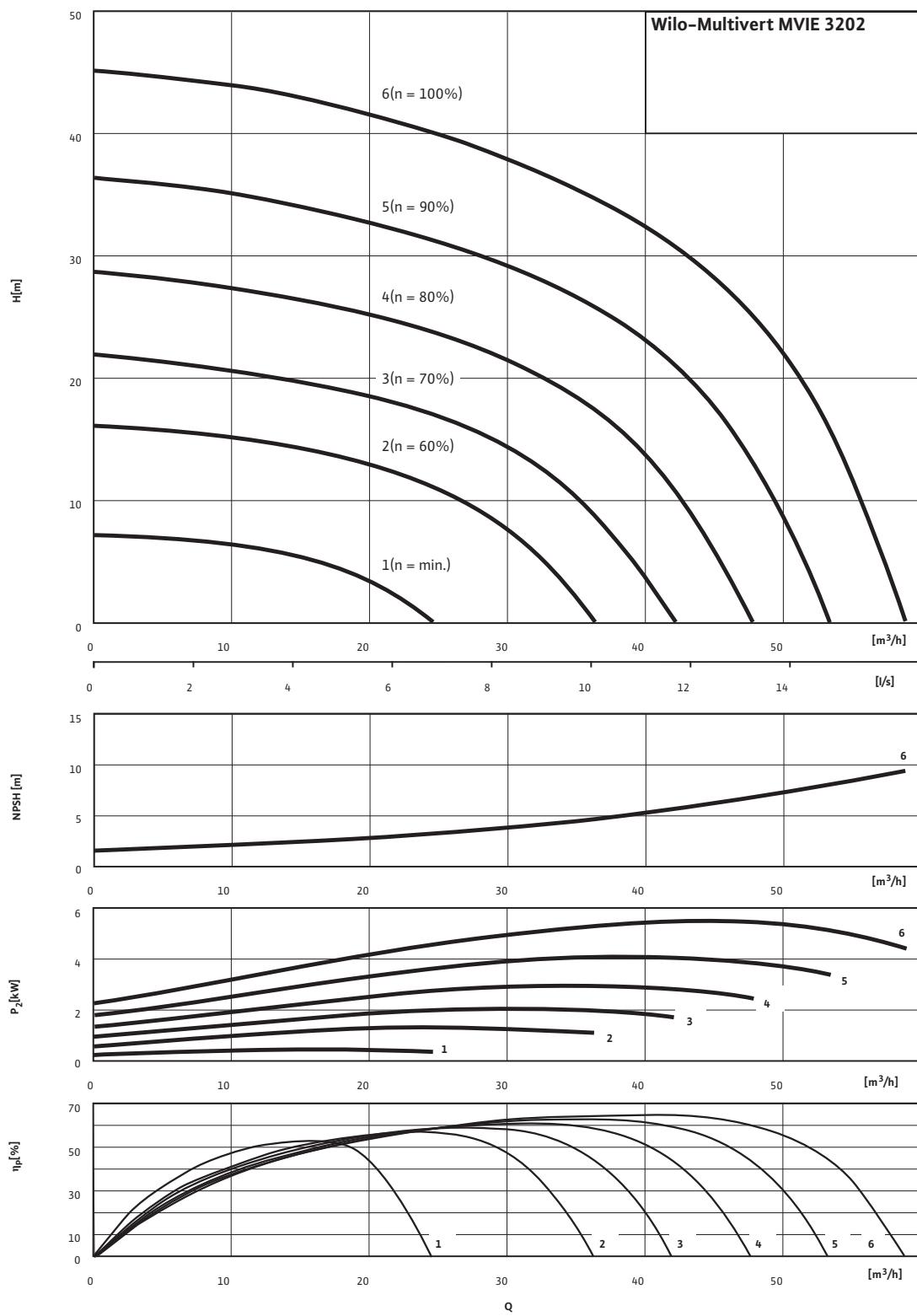
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 3202



Pump curves in accordance with ISO 9906, class 2

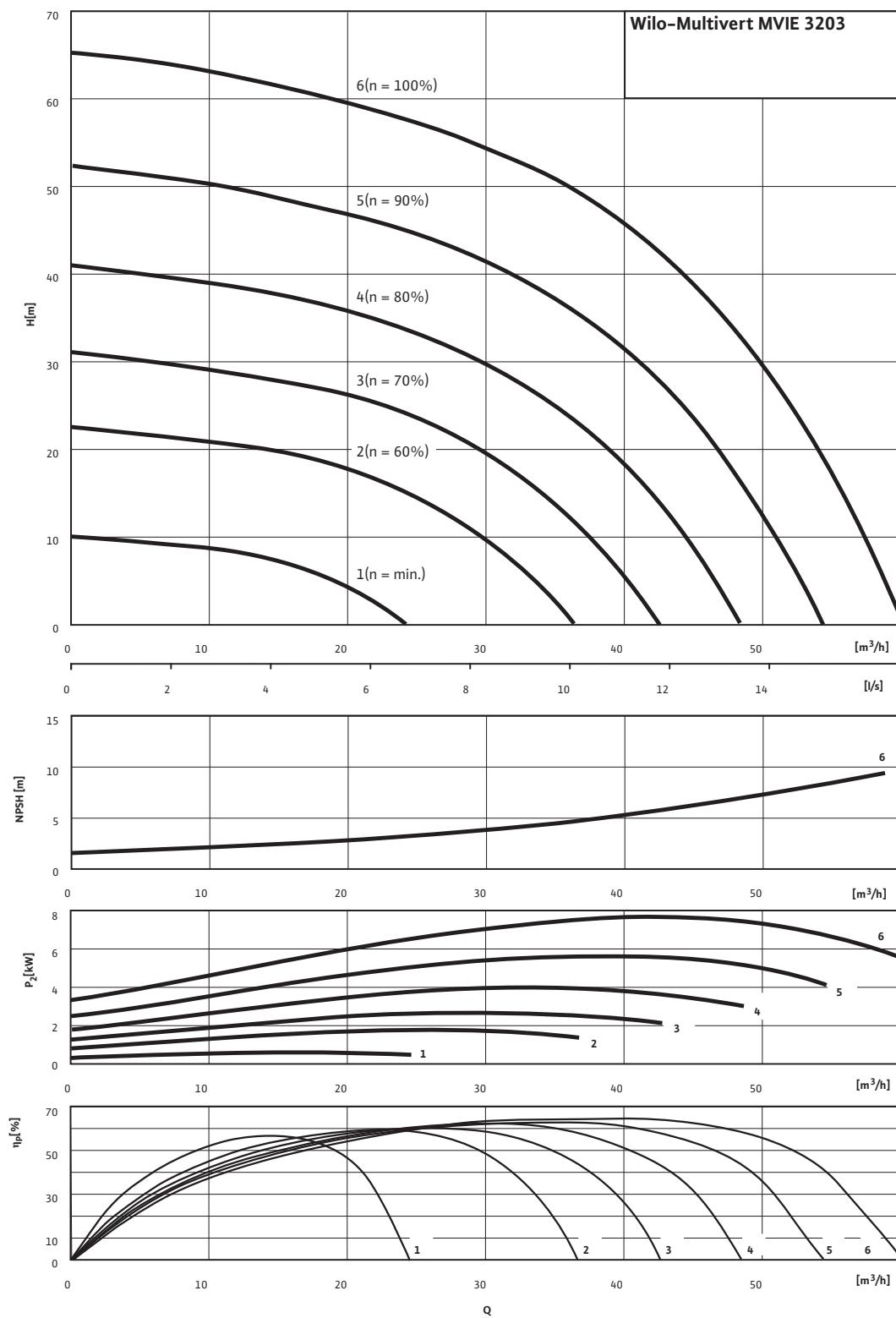
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 3203



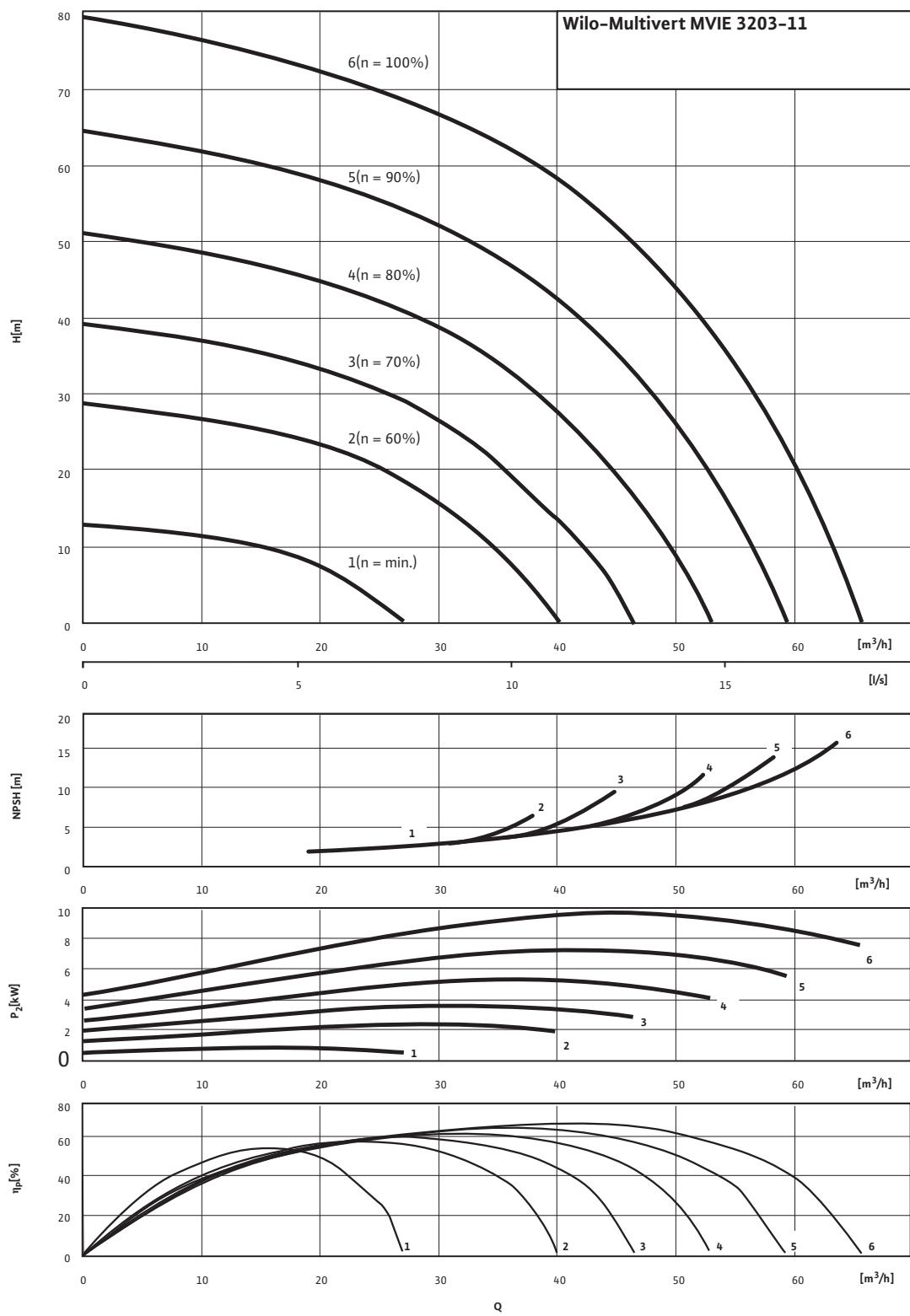
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 3203-11



Pump curves in accordance with ISO 9906, class 2

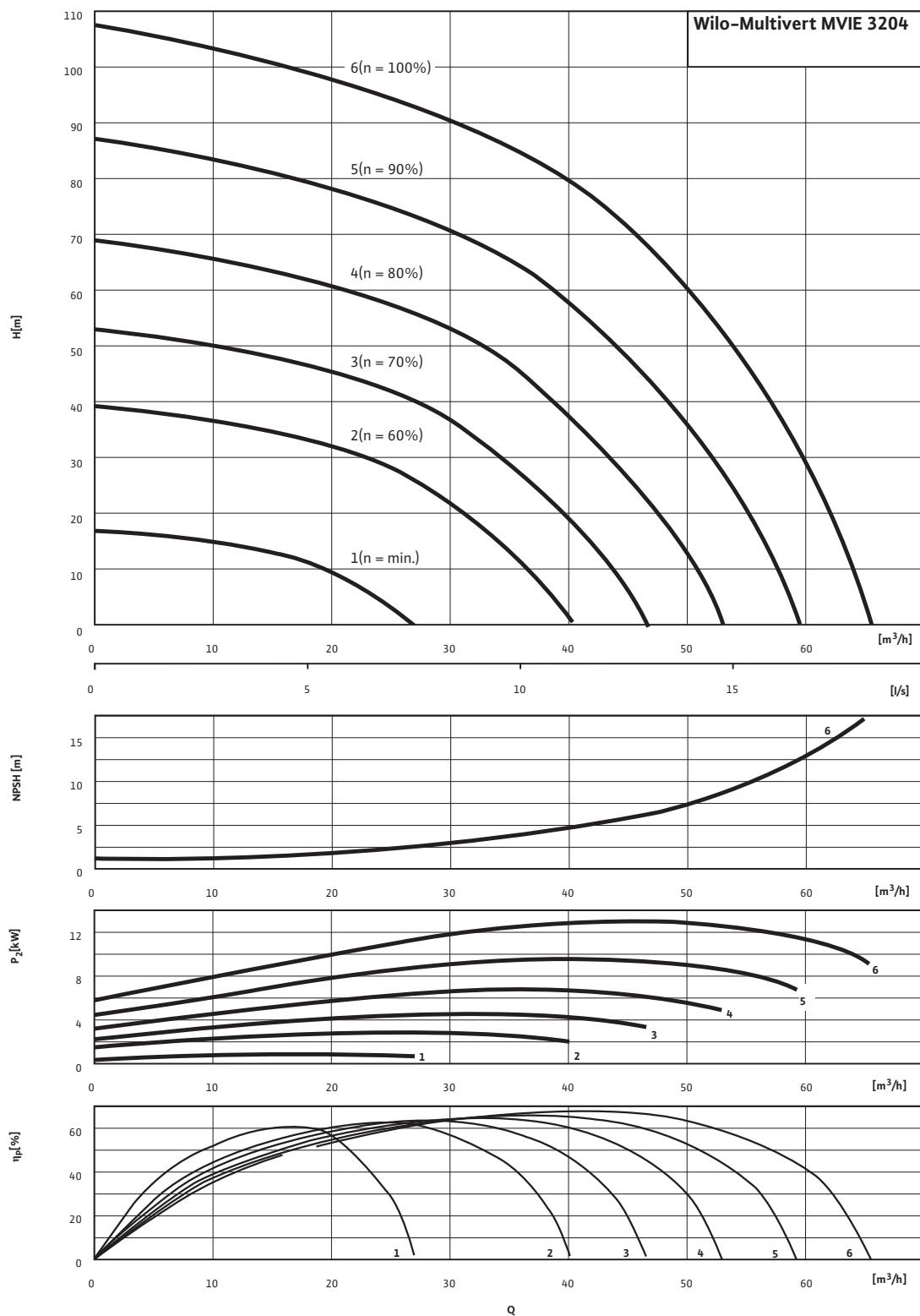
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

### Wilo-Multivert MVIE 3204



Pump curves in accordance with ISO 9906, class 2

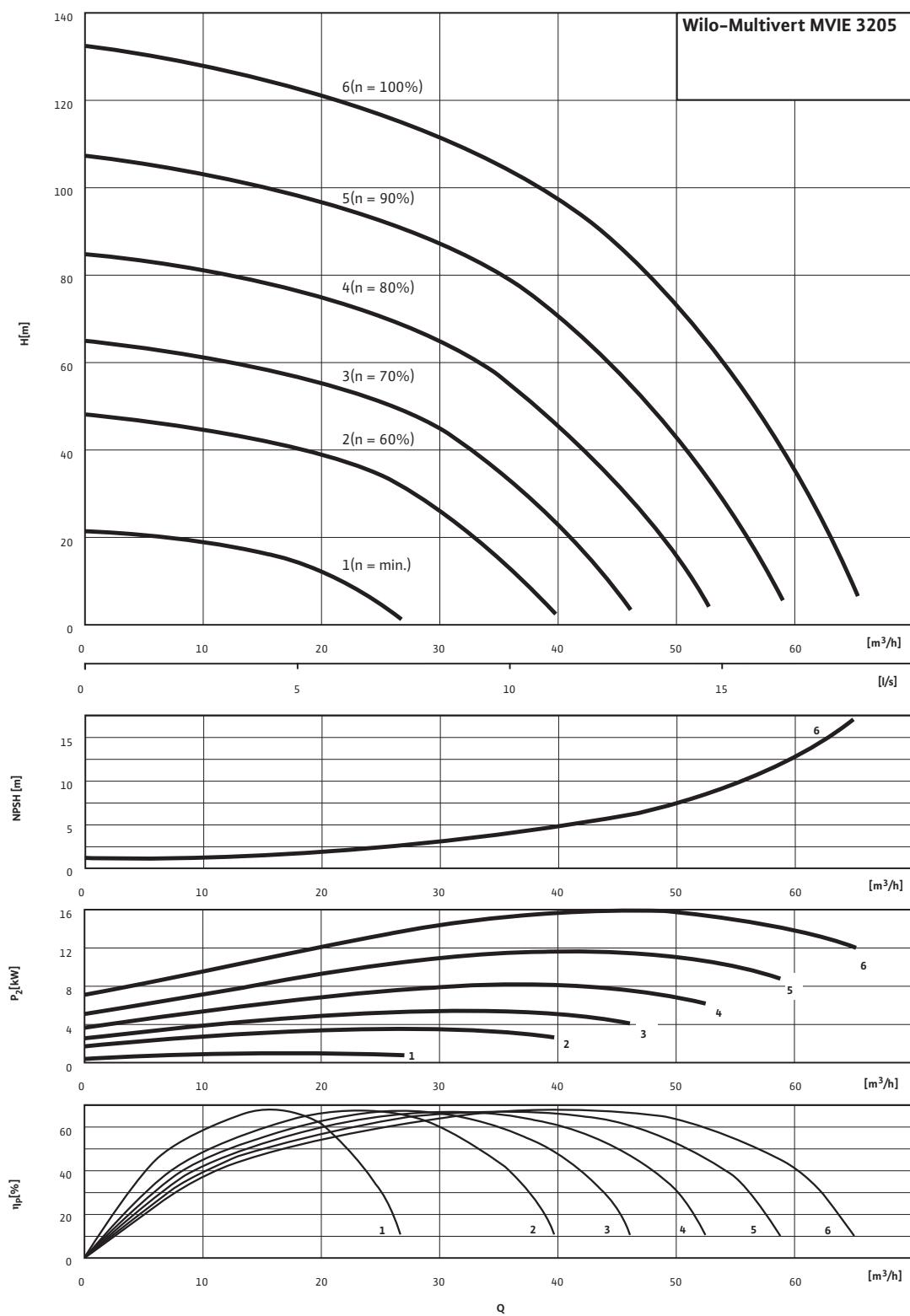
Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 3205



Pump curves in accordance with ISO 9906, class 2

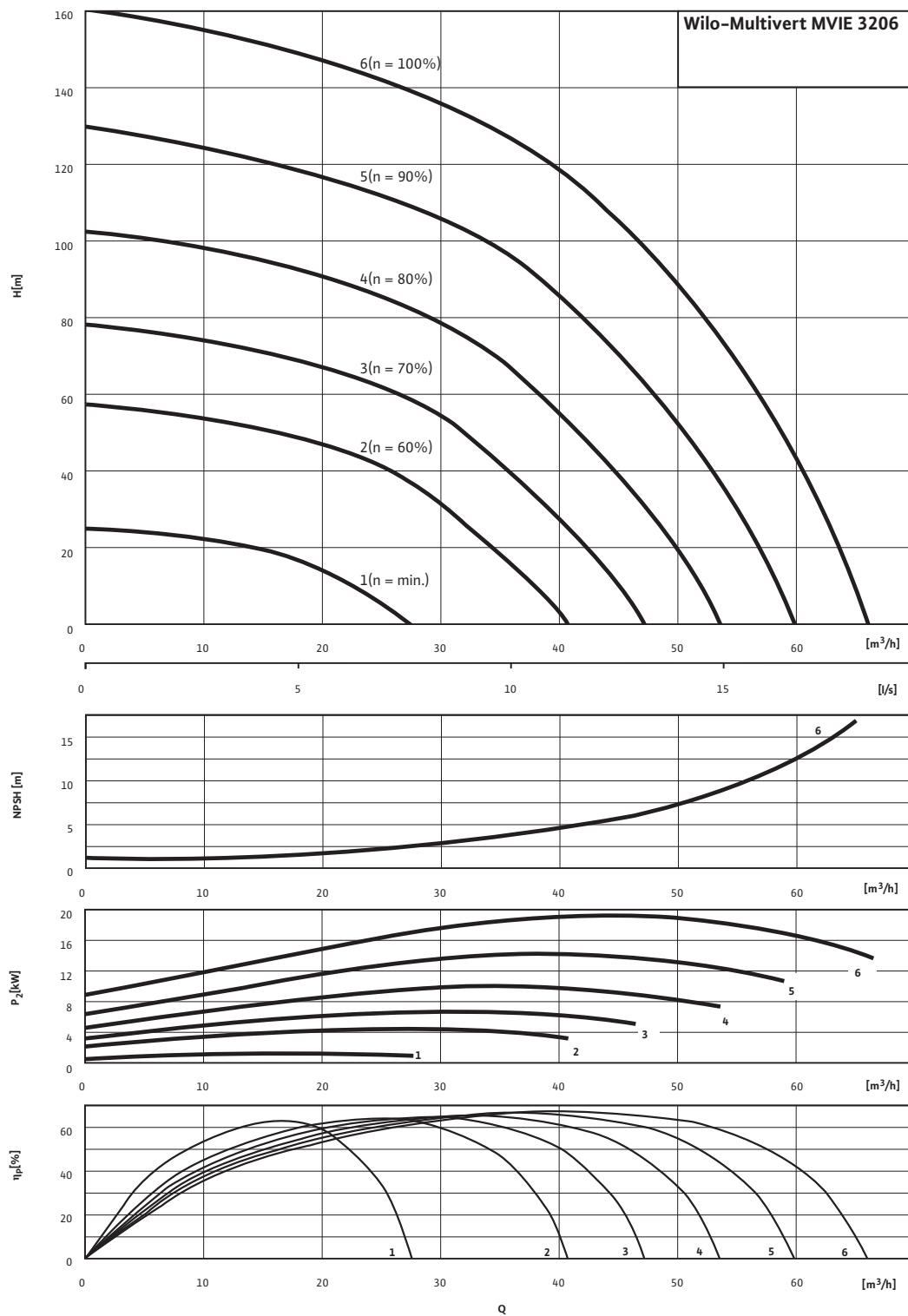
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 3206



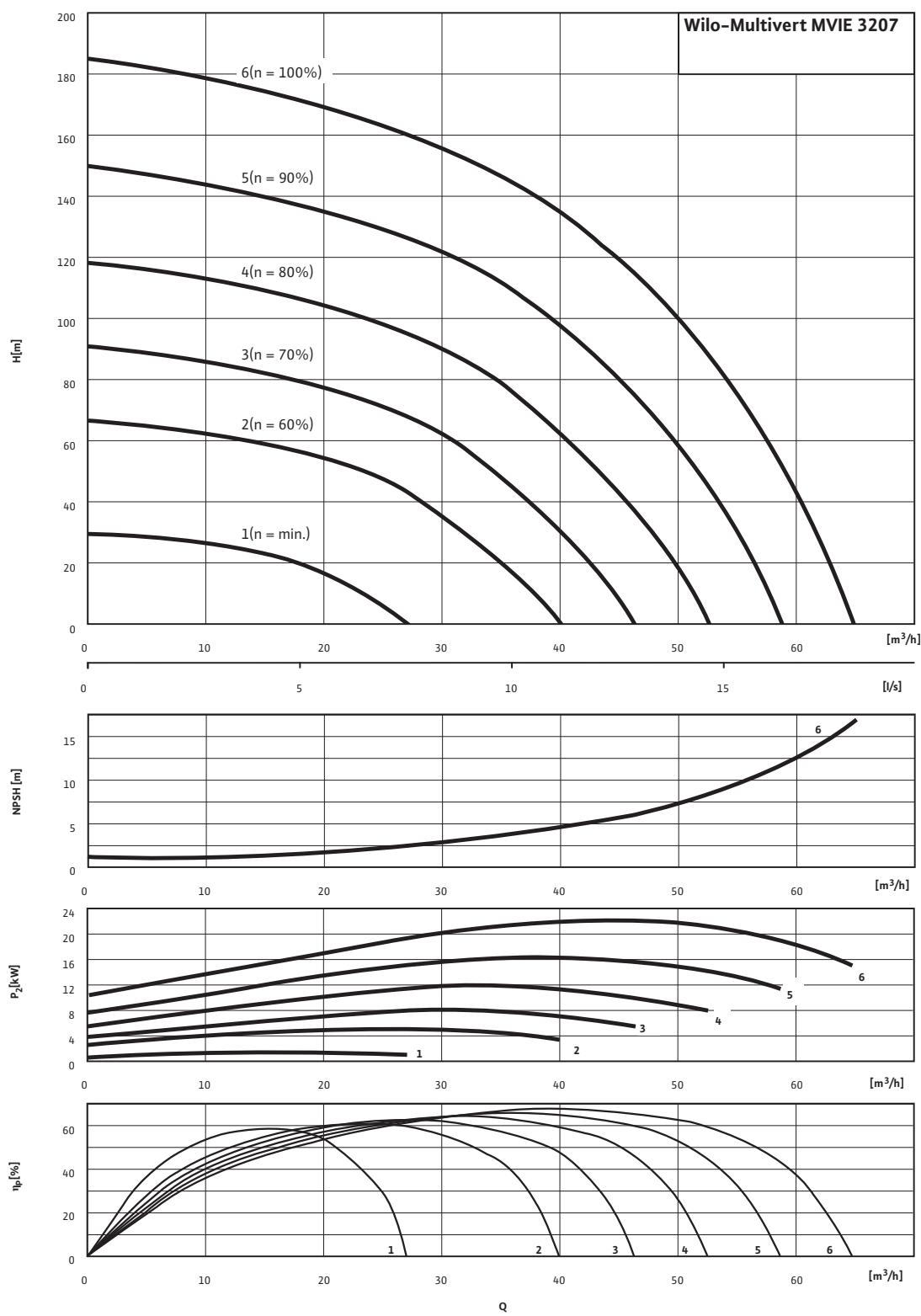
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 3207



Pump curves in accordance with ISO 9906, class 2

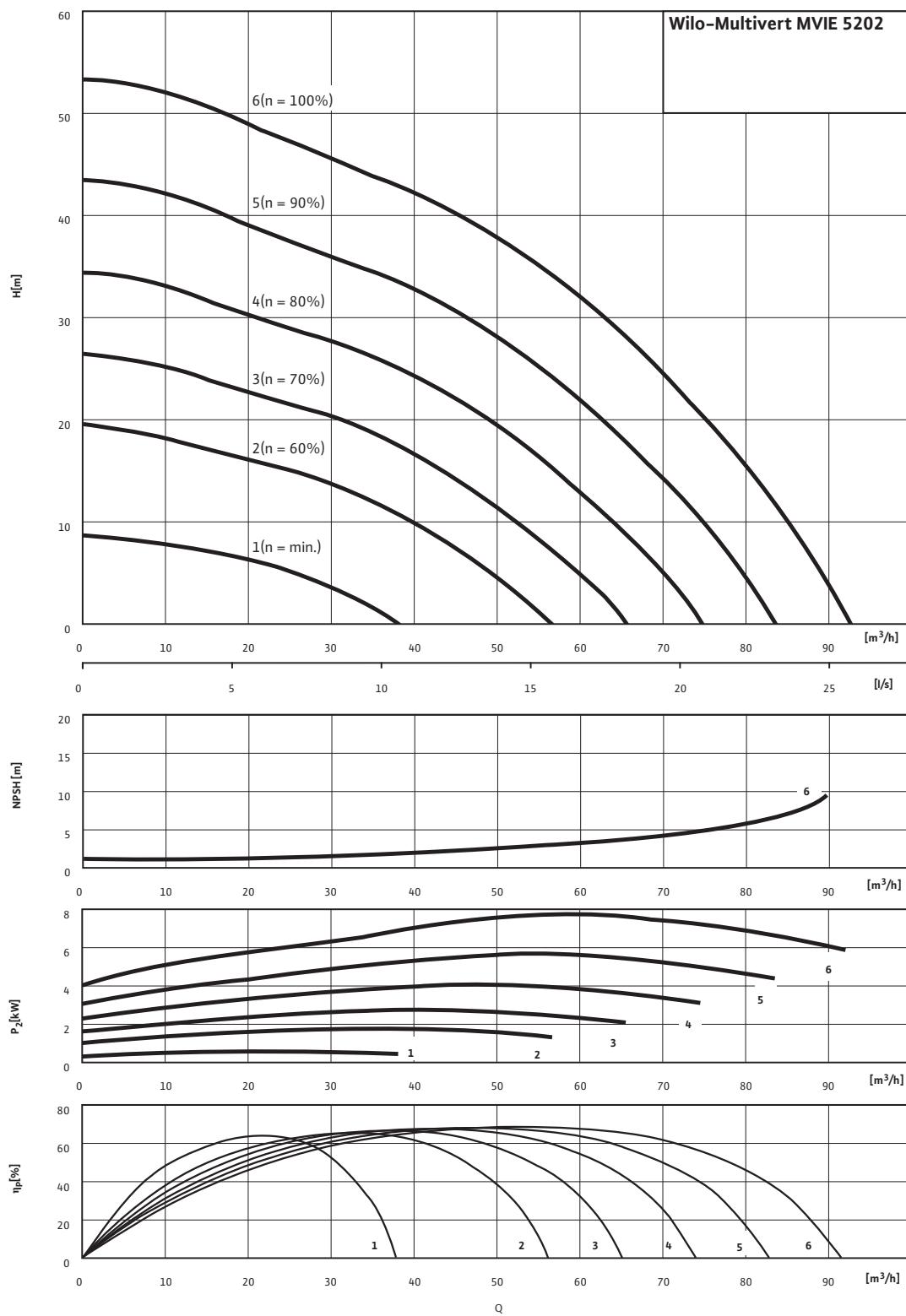
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 5202



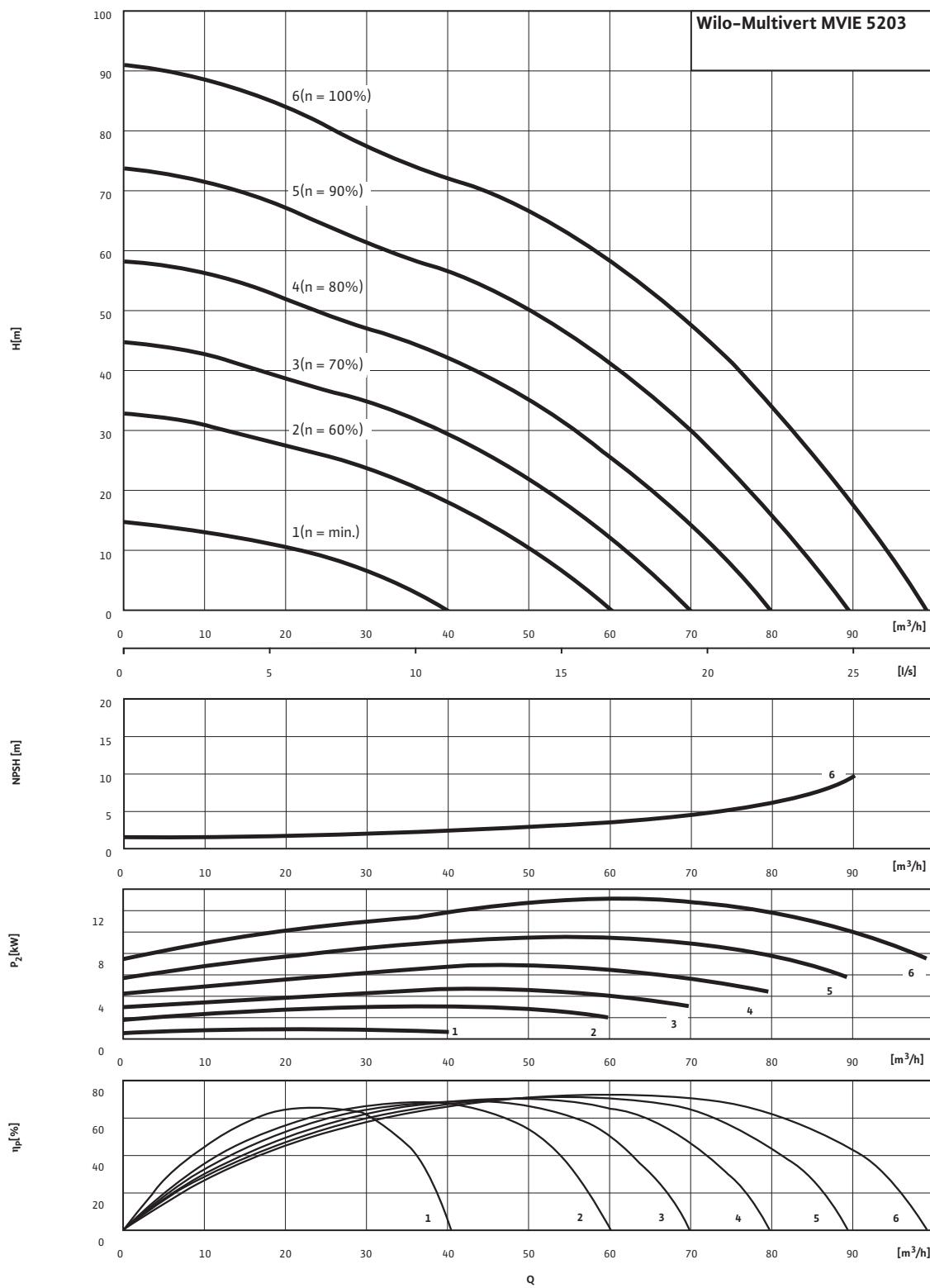
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 5203



Pump curves in accordance with ISO 9906, class 2

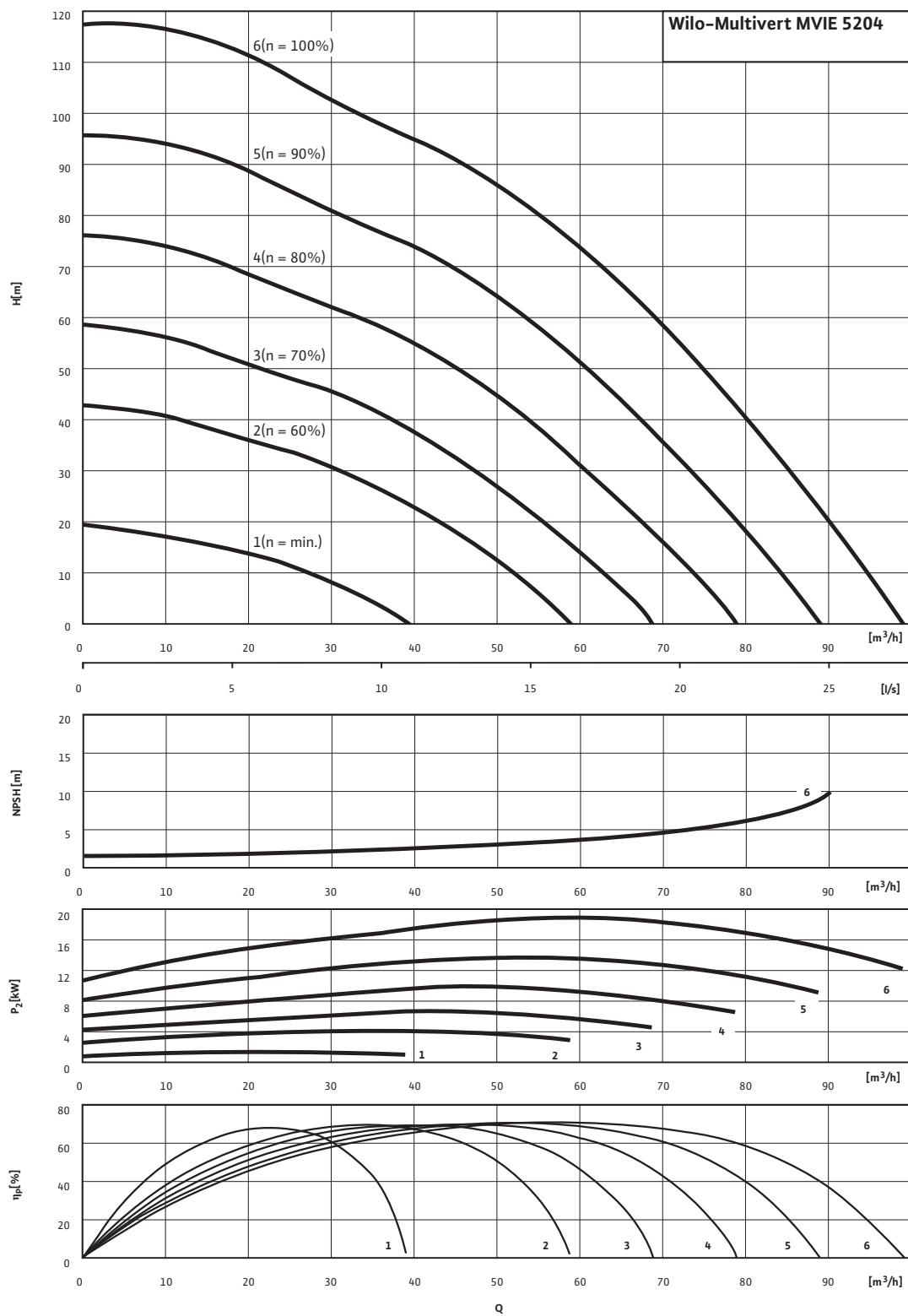
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 5204



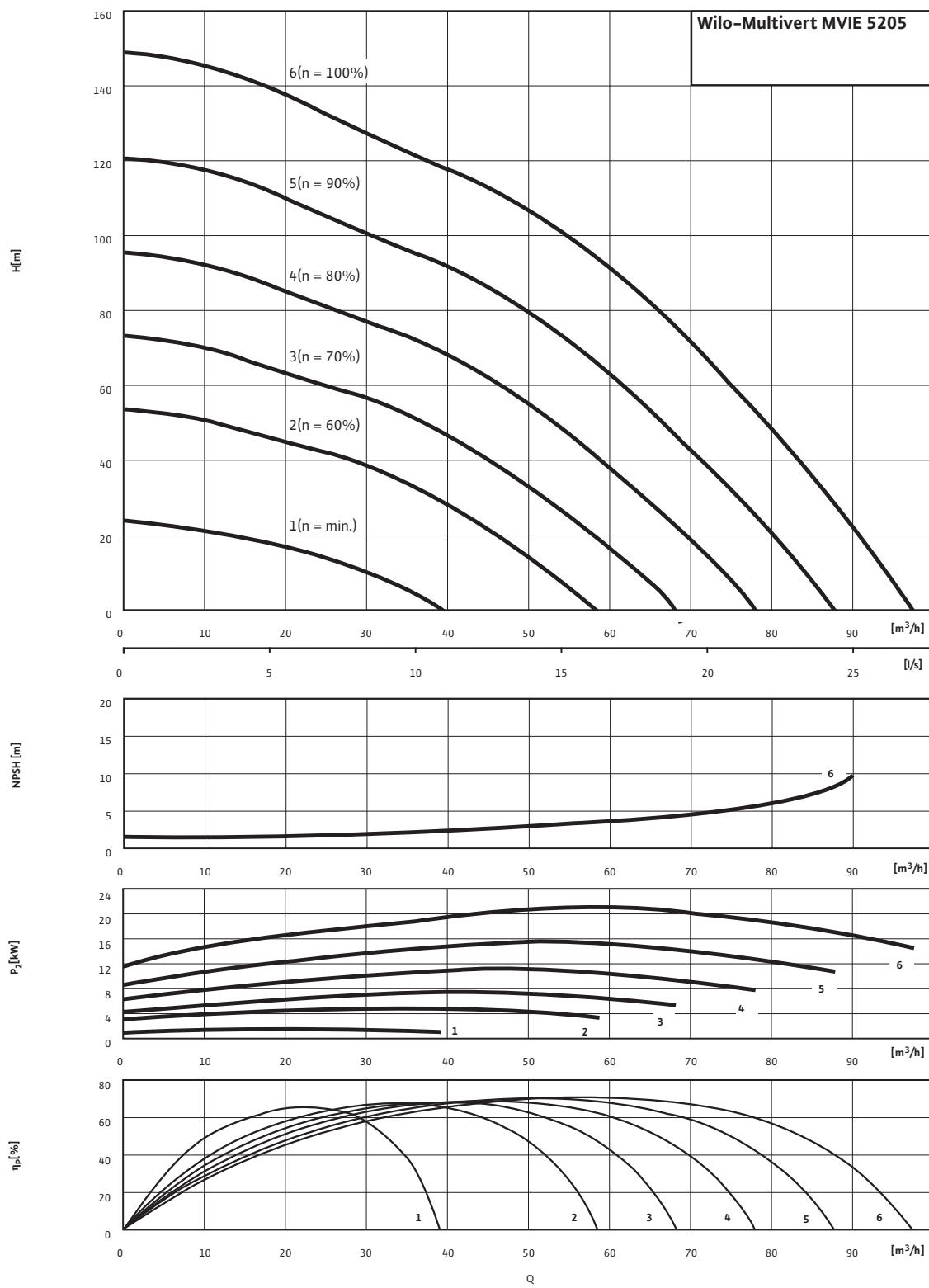
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 5205



Pump curves in accordance with ISO 9906, class 2

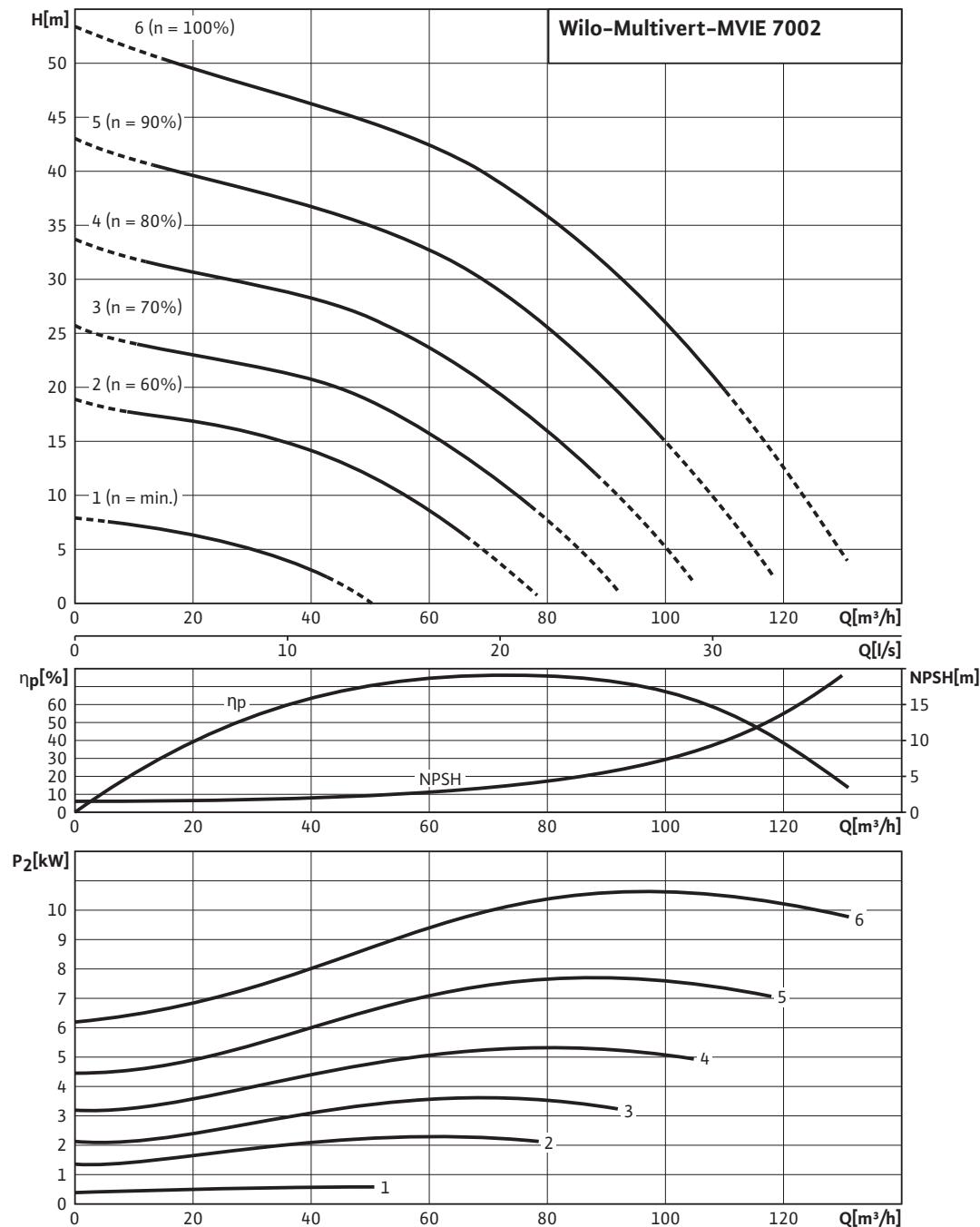
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 7002



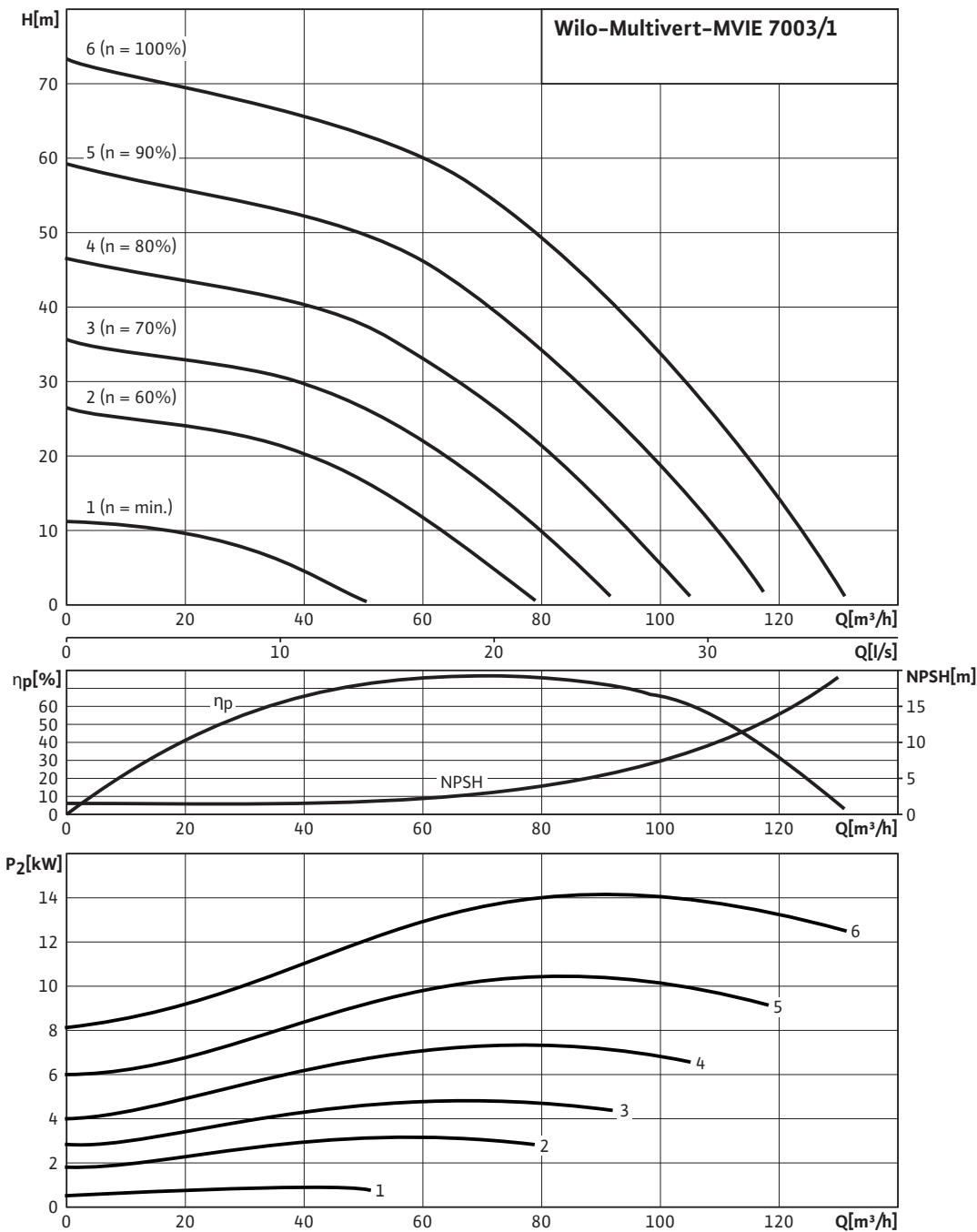
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 7003/1



Pump curves in accordance with ISO 9906, class 2

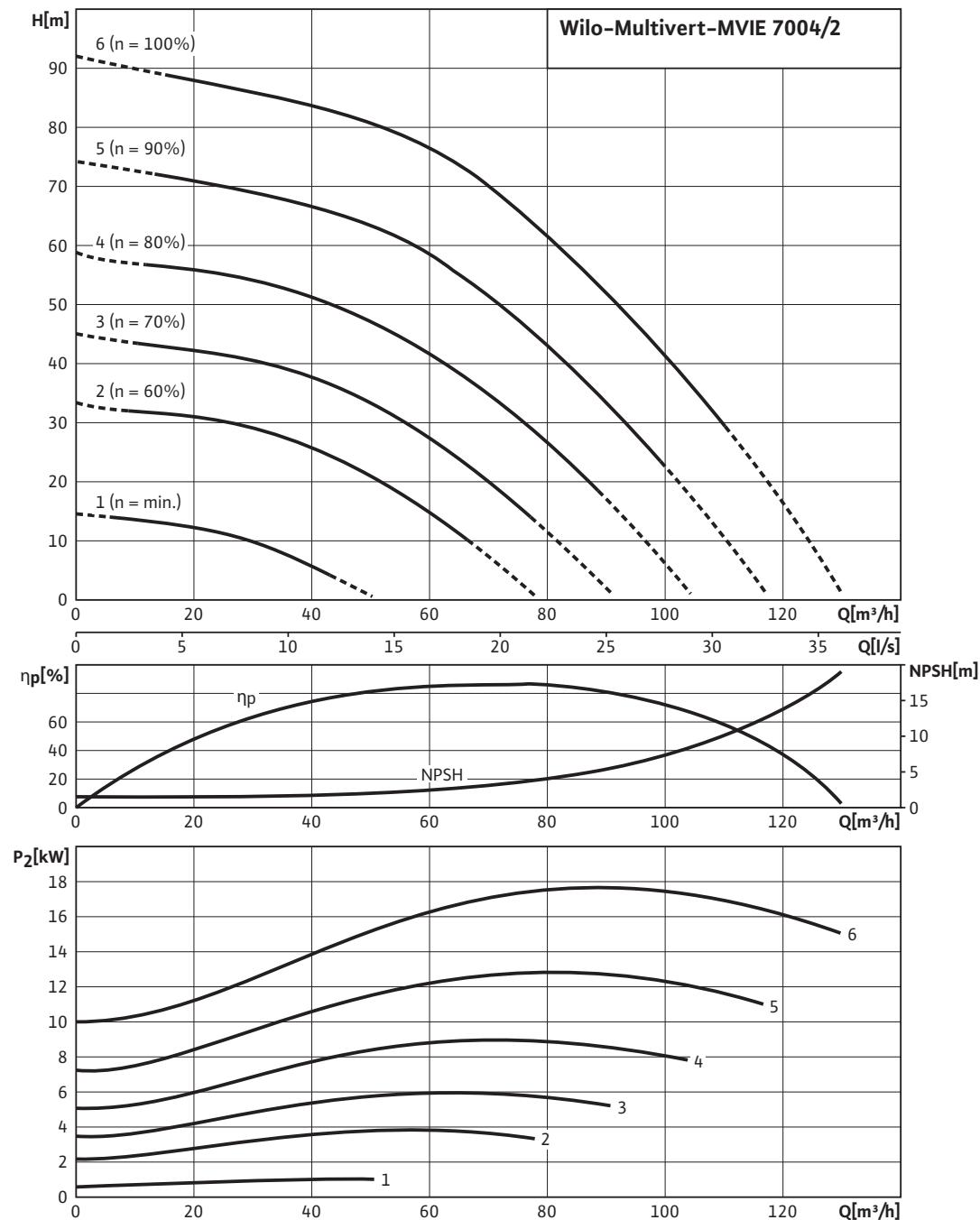
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 7004/2



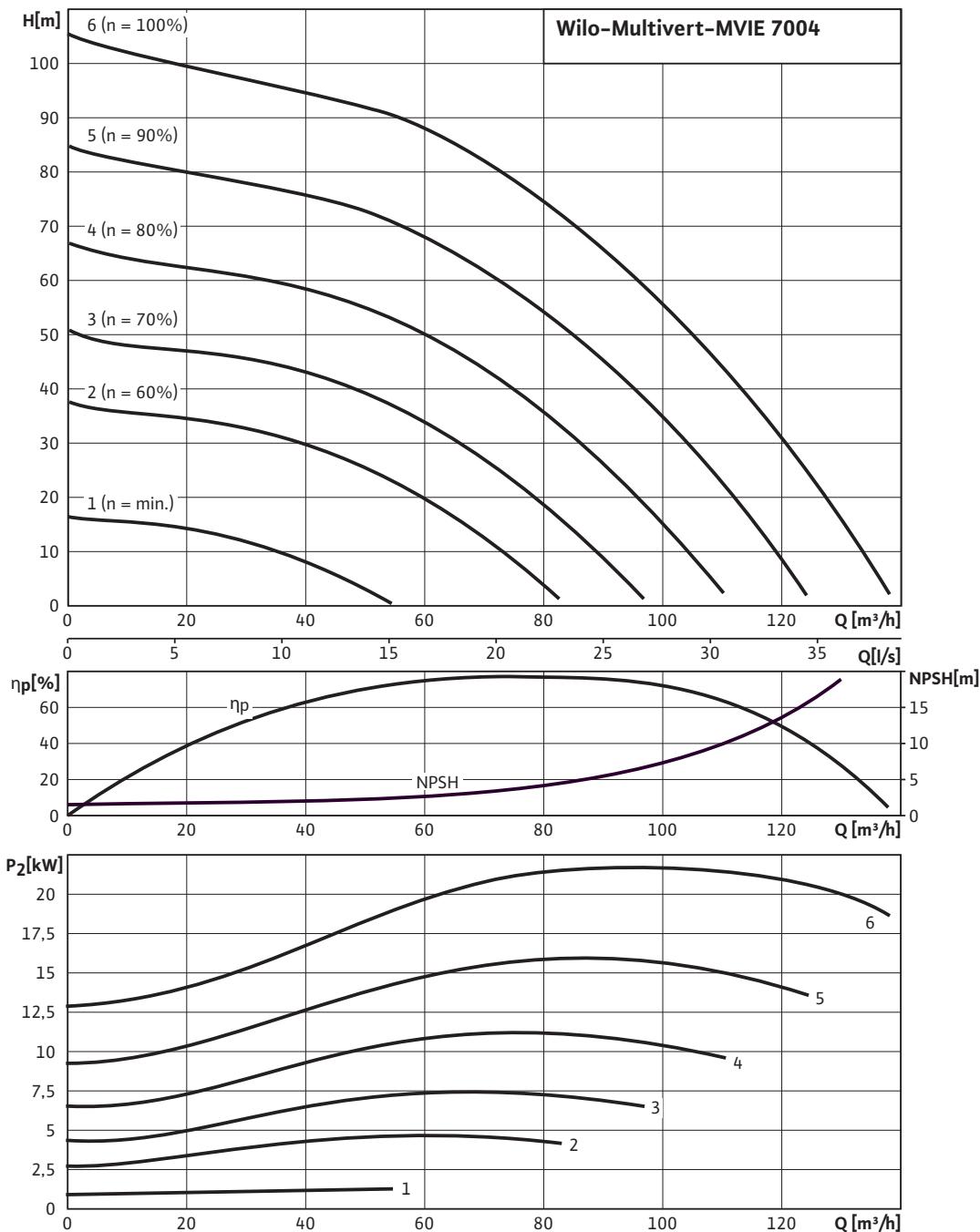
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 7004



Pump curves in accordance with ISO 9906, class 2

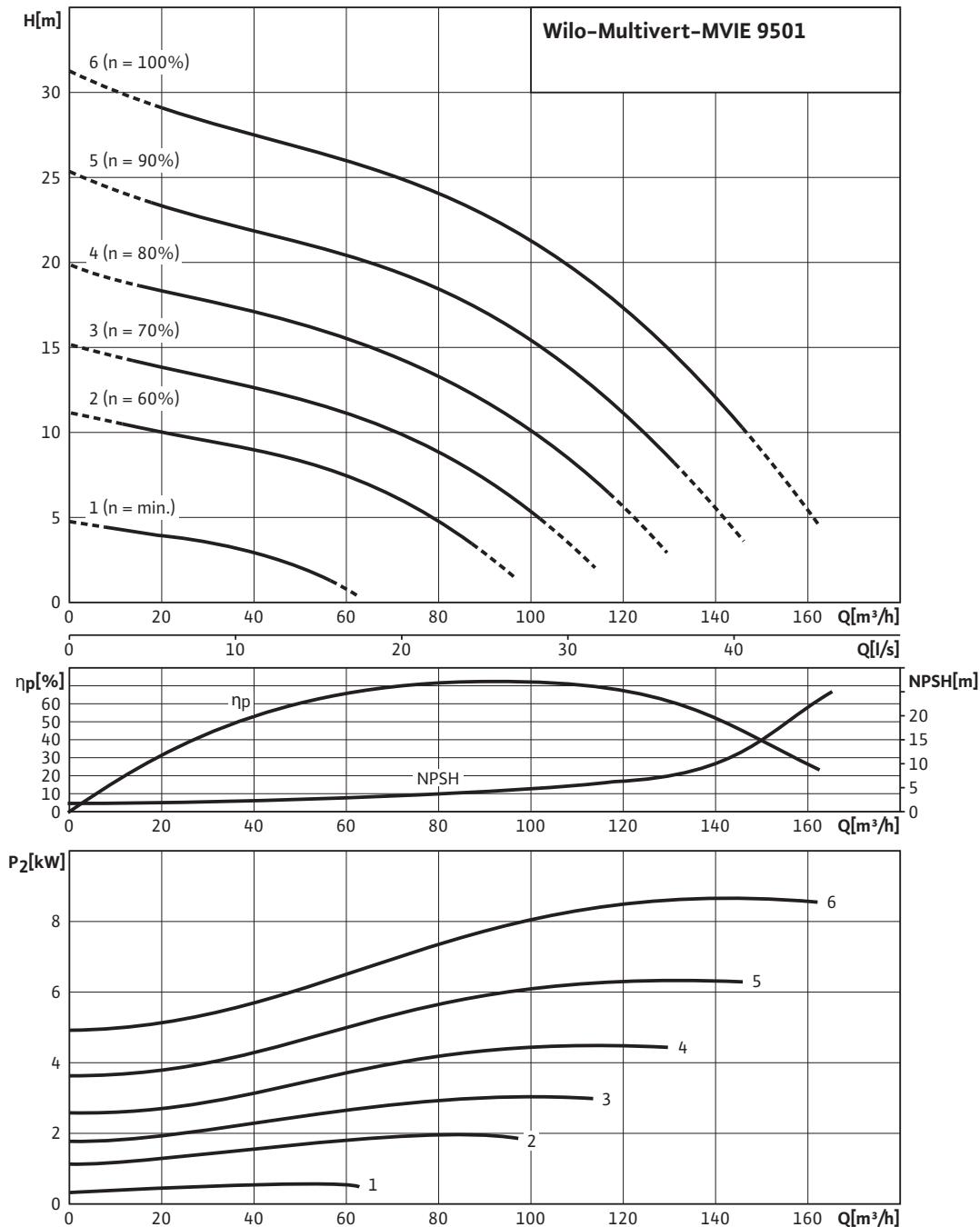
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 9501



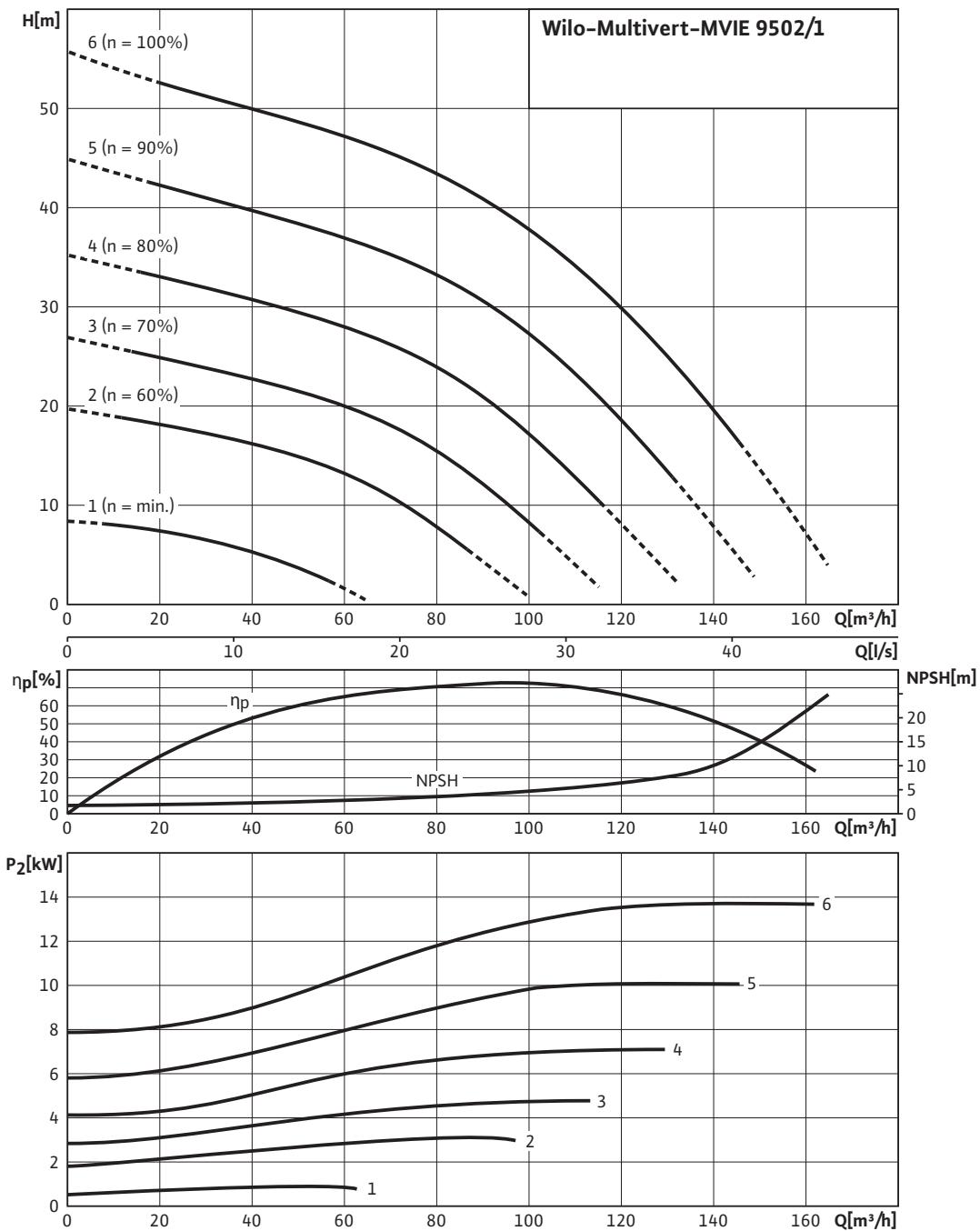
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 9502/1



Pump curves in accordance with ISO 9906, class 2

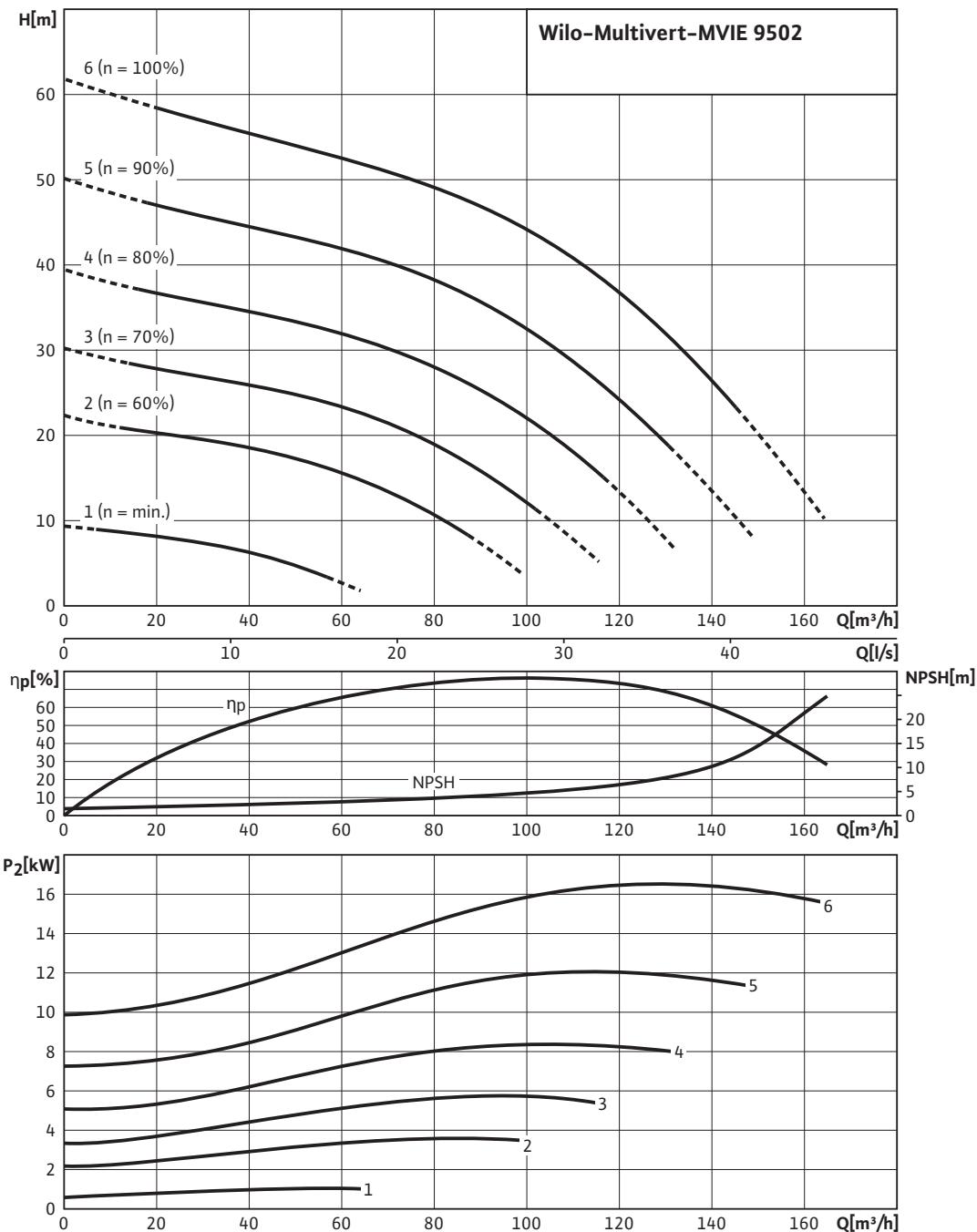
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIE

Wilo-Multivert MVIE 9502



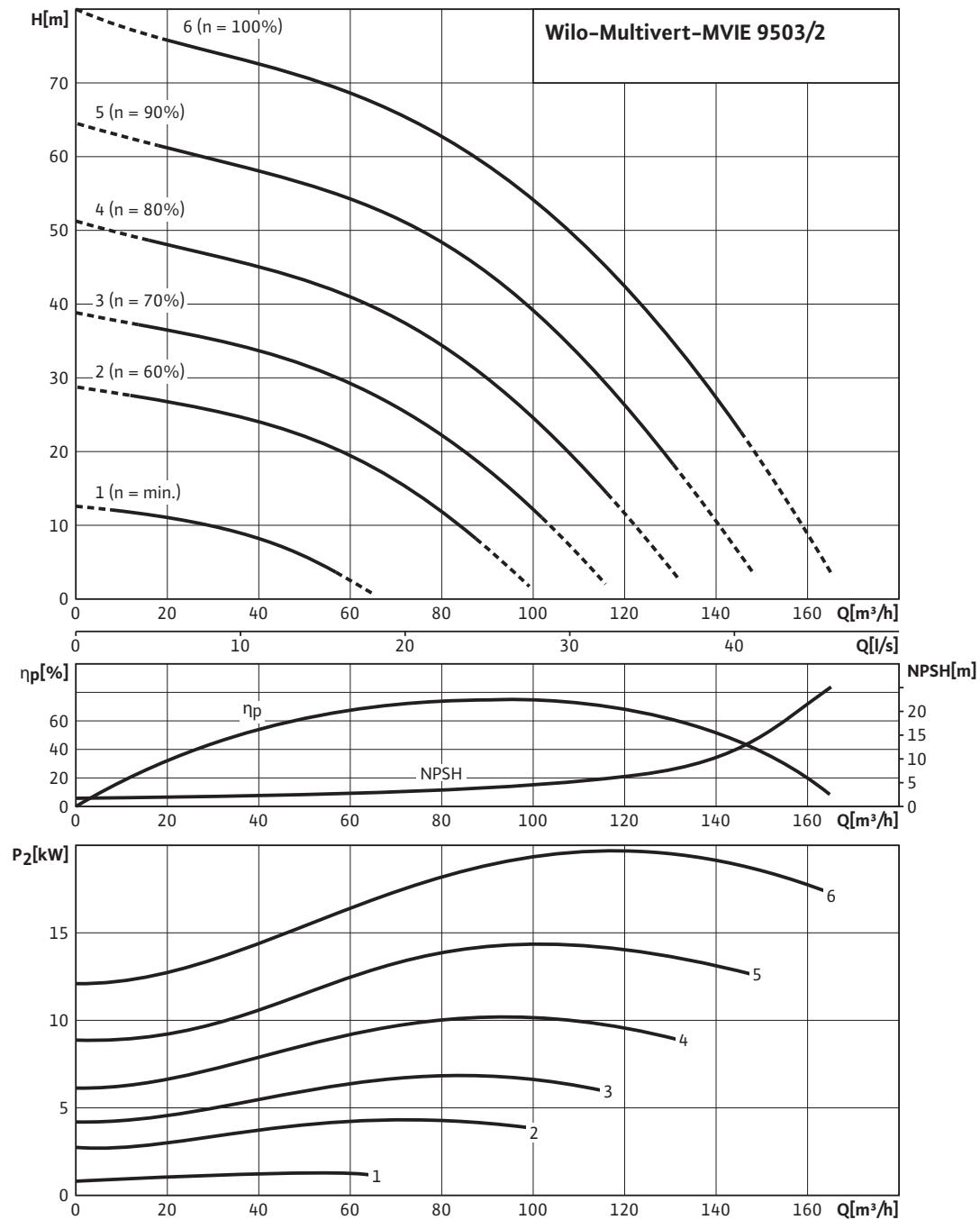
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIE

#### Wilo-Multivert MVIE 9503/2



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

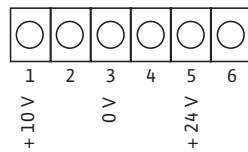
**WILO**

Single pumps

## Terminal diagram, motor data Wilo-Multivert MVIE

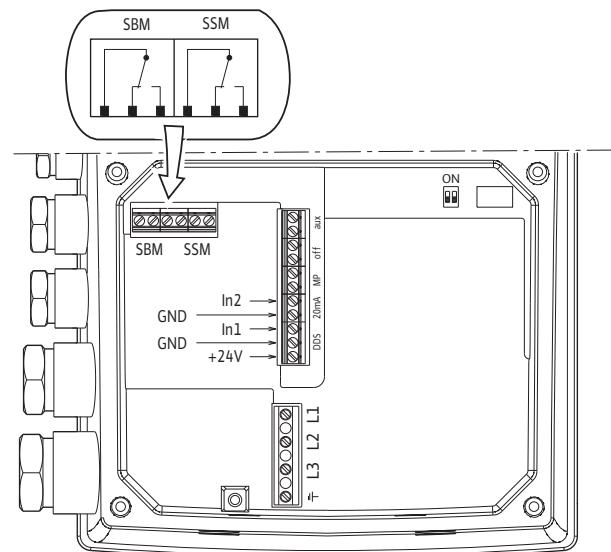
### Terminal diagram

1~230 V



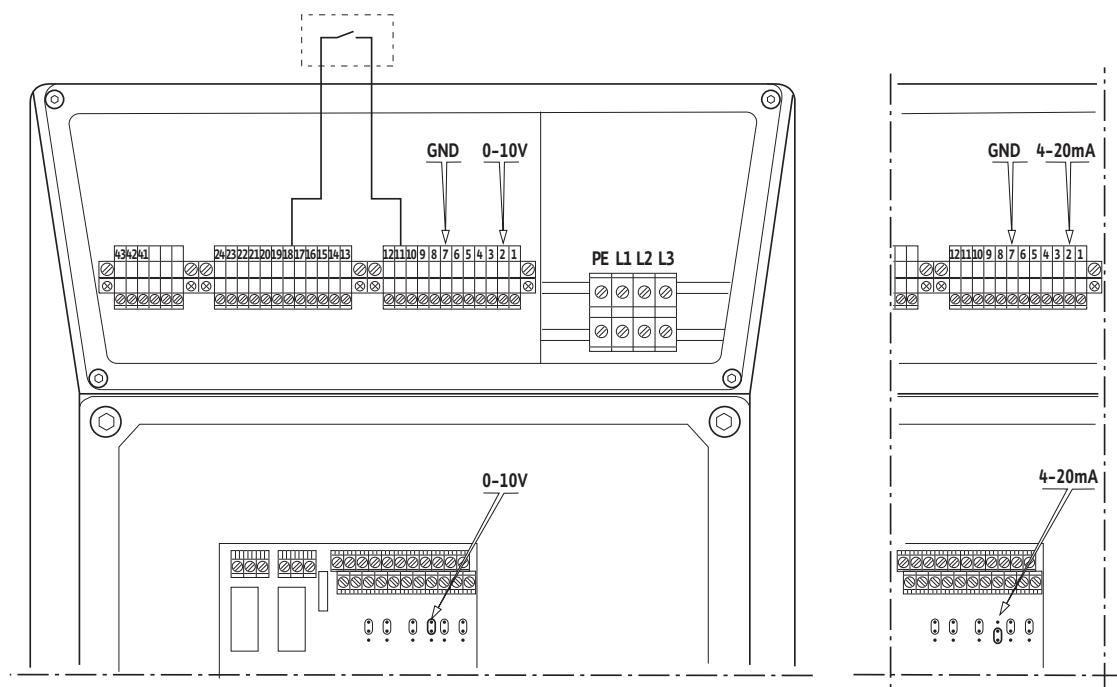
### Terminal diagram

3~400 V ≤ 7,5 kW



### Terminal diagram

3~400 V ≥ 11 kW



# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVIE

Motor data 1~230 V, 50 Hz					
Wilo Multivert...	Frequency	Mains connection	Nominal power	Nominal motor power	Nominal current
	f	-	P <sub>1</sub>	P <sub>2</sub>	I <sub>N</sub>
	[Hz]	-	[kW]		[A]
MVIE 204 M1, M3	50	1~230 V	1.60	1.10	12.7
MVIE 403 M1, M3	50	1~230 V	1.60	1.10	12.7

Motor data 3~400 V, 50 Hz					
Wilo Multivert...	Frequency	Mains connection	Nominal power	Nominal motor power	Nominal current
	f	-	P <sub>1</sub>	P <sub>2</sub>	I <sub>N</sub>
	[Hz]	-	[kW]		[A]
MVIE 204-2G	50	3~400 V	1.50	1.10	3.2
MVIE 208-2G	50	3~400 V	2.80	2.20	6.1
MVIE 214-2G	50	3~400 V	4.80	4.00	9.8
MVIE 403-2G	50	3~400 V	1.50	1.10	3.2
MVIE 406-2G	50	3~400 V	2.90	2.20	6.2
MVIE 410-2G	50	3~400 V	4.80	4.00	9.7
MVIE 803-2G	50	3~400 V	2.60	2.20	5.7
MVIE 806-2G	50	3~400 V	5.00	4.00	10.1
MVIE 808-2G	50	3~400 V	6.70	5.50	10.8
MVIE 811-2G	50	3~400 V	8.90	7.50	14.8
MVIE 1602-6-2G	50	3~400 V	2.80	2.20	6.1
MVIE 1603-6-2G	50	3~400 V	4.50	4.00	9.2
MVIE 1605-6-2G	50	3~400 V	6.60	5.50	10.8
MVIE 1607-6-2G	50	3~400 V	8.80	7.50	14.8
MVIE 1606	50	3~400 V	11.90	11.00	19.3
MVIE 1608	50	3~400 V	15.50	15.00	27.8
MVIE 1610	50	3~400 V	19.80	18.50	31.9
MVIE 3202	50	3~400 V	6.80	5.50	10.8
MVIE 3203	50	3~400 V	9.30	7.50	14.8
MVIE 3203	50	3~400 V	11.60	11.00	18.6
MVIE 3204	50	3~400 V	15.30	15.00	24.4
MVIE 3205	50	3~400 V	18.80	18.50	30.3
MVIE 3206	50	3~400 V	22.20	22.00	35.9
MVIE 3207	50	3~400 V	25.50	22.00	40.8
MVIE 5202	50	3~400 V	9.30	7.50	14.8
MVIE 5203	50	3~400 V	15.60	15.00	25.0
MVIE 5204	50	3~400 V	20.30	18.50	32.7
MVIE 5205	50	3~400 V	24.50	22.00	38.9
MVIE 7002	50	3~400 V	12.80	11.00	20.3
MVIE 7003/1	50	3~400 V	16.90	15.00	27.4
MVIE 7004/2	50	3~400 V	20.30	18.50	32.2
MVIE 7004	50	3~400 V	24.00	22.00	38.5
MVIE 9501	50	3~400 V	10.50	11.00	16.5
MVIE 9502/2	50	3~400 V	16.50	15.00	26.3
MVIE 9502	50	3~400 V	19.10	18.50	30.1
MVIE 9503/2	50	3~400 V	22.00	22.00	34.8

# High-pressure multistage centrifugal pumps

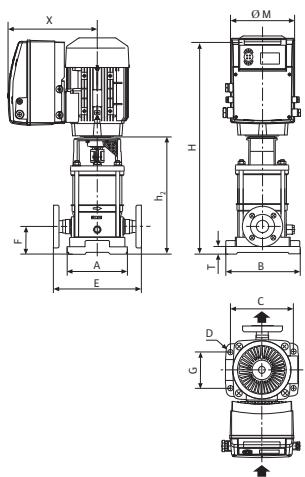
**WILO**

## Single pumps

### Dimensions, weights Wilo-Multivert MVIE

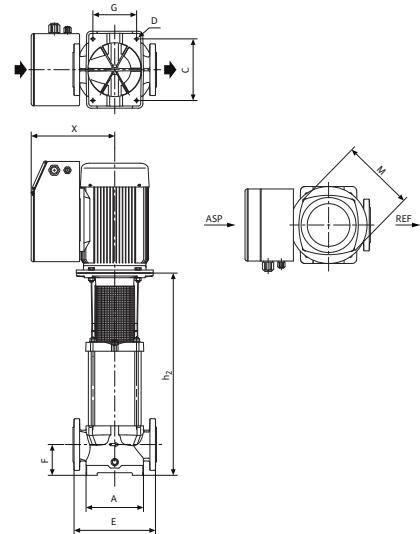
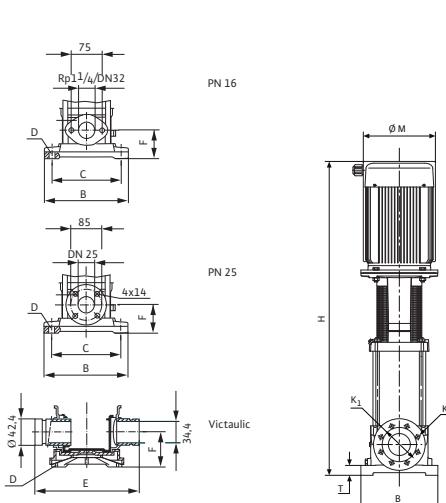
#### Dimension drawing

Wilo-Multivert MVIE ≤ 7,5 kW



#### Dimension drawing

Wilo-Multivert MVIE ≥ 11 kW



#### Dimensions, weights 1~230 V, 50 Hz

Wilo Multivert...	Dimensions														Weight approx. [kg]	
	A	B	c	D	E	F	G	H	h <sub>2</sub>	K	K <sub>1</sub>	Rp/DN	Ø M	T	X	
	[mm]														[kg]	
<b>MVIE 204 M1, M3</b>	157	212	180	4x12	204	50	100	597.5	330.5	75	4x18	Rp 1"	170	20	205	25.5
<b>MVIE 204-2G</b>	157	212	180	4x12	204	50	100	594.5	354.5	75	—	Rp 1"	155	20	237	25.3
<b>MVIE 208-2G</b>	157	212	180	4x12	204	50	100	720.5	436.5	75	—	Rp 1"	170	20	254	37.2
<b>MVIE 403 M1, M3</b>	157	212	180	4x12	204	50	100	573.5	306.5	75	—	Rp 1¼"	170	20	205	25.0
<b>MVIE 403-2G</b>	157	212	180	4x12	204	50	100	546.6	306.5	75	—	Rp 1¼"	155	20	237	25.3
<b>MVIE 406-2G</b>	157	212	180	4x12	204	50	100	672.5	388.5	75	—	Rp 1¼"	170	20	254	36.5
<b>MVIE 410-2G</b>	157	212	180	4x12	204	50	100	828.5	494.5	75	—	Rp 1¼"	220	20	284	53.3
<b>MVIE 803-2G</b>	187	252	215	4x12	250	80	130	657.5	373.5	75	—	Rp 1½"	170	20	254	36.7
<b>MVIE 806-2G</b>	187	252	215	4x12	250	80	130	807.5	473.5	75	—	Rp 1½"	220	20	284	52.8
<b>MVIE 808-2G</b>	187	252	215	4x12	250	80	130	933.0	553.0	75	—	Rp 1½"	262	20	296	80.6
<b>MVIE 1602-6-2G</b>	187	252	215	4x12	250	90	130	652.5	368.5	100	—	Rp 2"	170	20	254	38.0
<b>MVIE 1603-6-2G</b>	187	252	215	4x12	250	90	130	787.5	453.5	100	—	Rp 2"	220	20	284	53.2
<b>MVIE 1605-6-2G</b>	187	252	215	4x12	250	90	130	873.5	493.5	100	—	Rp 2"	262	20	296	82.0
<b>MVIE 1607-6-2G</b>	187	252	215	4x12	250	90	130	987.5	607.5	100	—	Rp 2"	262	20	296	89.2
<b>MVIE 1606</b>	190	252	215	4x14	300	90	130	1032.0	582.5	125	4x18	DN 50	258	20	335	186.5
<b>MVIE 3202</b>	235	235	195	4x14	320	105	195	834.0	460.0	145	8x18	DN 65	266	35	308	113.6
<b>MVIE 3203</b>	235	235	195	4x14	320	105	195	880.0	506.0	145	8x18	DN 65	266	35	308	126.1
<b>MVIE 3203</b>	235	235	195	4x14	320	105	195	985.5	536.0	145	8x18	DN 65	258	35	335	186.5
<b>MVIE 3204</b>	235	235	195	4x14	320	105	195	1043.0	582.0	145	8x18	DN 65	313	35	365	206.0

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVIE

Dimensions, weights 1~230 V, 50 Hz																
Wilo Multivert...	Dimensions														Weight approx.	
	A	B	c	D	E	F	G	H	h <sub>2</sub>	K	K <sub>1</sub>	Rp/DN	Ø M	T	X	m
	[mm]												-		[mm]	
<b>MVIE 3205</b>	235	235	195	4x14	320	105	195	1173.0	674.0	145	8x18	DN 65	313	35	350	256.5
<b>MVIE 5202</b>	260	260	220	4x14	320	105	220	865.0	491.0	160	8x18	DN 80	266	30	308	126.1
<b>MVIE 5203</b>	260	260	220	4x14	320	105	220	1044.0	583.0	160	8x18	DN 80	313	30	365	210.0
<b>MVIE 5204</b>	260	260	220	4x14	320	105	220	1143.0	644.0	160	8x18	DN 80	313	30	350	256.5
<b>MVIE 5205</b>	260	260	220	4x14	320	105	220	1292.0	767.0	160	8x18	DN 80	351	30	365	292.5
<b>MVIE 7002</b>	264	350	280	4x14	380	140	199	1206.5	757.0	180	8x19	DN 100	258	45	335	213.5
<b>MVIE 7003/1</b>	264	350	280	4x14	380	140	199	1303.0	842.0	180	8x19	DN 100	313	45	365	246.0
<b>MVIE 7004/2</b>	264	350	280	4x14	380	140	199	1426.0	927.0	180	8x19	DN 100	313	45	350	281.0
<b>MVIE 7004</b>	264	350	280	4x14	380	140	199	1452.0	927.0	180	8x19	DN 100	351	45	365	312.0
<b>MVIE 9501</b>	264	350	280	4x14	380	140	199	1134.5	685.0	180	8x19	DN 100	258	45	335	210.0
<b>MVIE 9502/2</b>	264	350	280	4x14	380	140	199	1244.0	783.0	180	8x19	DN 100	313	45	365	244.0
<b>MVIE 9502</b>	264	350	280	4x14	380	140	199	1282.0	783.0	180	8x19	DN 100	313	45	350	275.0
<b>MVIE 9503/2</b>	264	350	280	4x14	380	140	199	1406.0	881.0	180	8x19	DN 100	351	45	365	310.5

1) "E" dimension including counter flanges (2 x 25 mm)

2) Weight without packaging

Dimensions, weights 1~230 V, 50 Hz																
Wilo Multivert...	Dimensions														Weight approx.	
	A	B	c	D	E	F	G	H	h <sub>2</sub>	K	K <sub>1</sub>	Rp/DN	Ø M	T	X	m
	[mm]												-		[mm]	
<b>MVIE 204 M1, M3</b>	172	212	180	4x12	250	75	100	622.5	355.5	85	-	DN 25	170	20	205	28.5
<b>MVIE 204-2G</b>	172	212	180	4x12	250	75	100	595.5	355.5	85	-	DN 25	155	20	237	26.6
<b>MVIE 208-2G</b>	172	212	180	4x12	250	75	100	745.5	461.5	85	-	DN 25	170	20	254	38.6
<b>MVIE 214-2G</b>	172	212	180	4x12	250	75	100	949.5	615.5	85	-	DN 25	220	20	284	57.1
<b>MVIE 403 M1, M3</b>	172	212	180	4x12	250	75	100	598.5	331.5	100	4x18	DN 32	170	20	205	26.0
<b>MVIE 403-2G</b>	172	212	180	4x12	250	75	100	571.5	331.5	100	4x18	DN 32	155	20	237	26.6
<b>MVIE 406-2G</b>	172	212	180	4x12	250	75	100	697.5	413.5	100	4x18	DN 32	170	20	254	37.9
<b>MVIE 410-2G</b>	172	212	180	4x12	250	75	100	853.5	519.5	100	4x18	DN 32	220	20	284	54.7
<b>MVIE 414-2G</b>	172	212	180	4x12	250	75	100	1015.0	635.0	100	4x18	DN 32	262	20	296	82.4
<b>MVIE 803-2G</b>	187	252	215	4x12	280	80	130	657.5	373.5	110	4x18	DN 40	170	20	254	37.1
<b>MVIE 806-2G</b>	187	252	215	4x12	261	80	130	807.5	473.5	130	-	DN 40	220	20	284	53.2
<b>MVIE 808-2G</b>	187	252	215	4x12	280	80	130	933.0	553.0	110	4x18	DN 40	262	20	296	79.9
<b>MVIE 811-2G</b>	187	252	215	4x12	280	80	130	1053.0	673.0	110	4x18	DN 40	262	20	296	86.9
<b>MVIE 1602-6-2G</b>	187	252	215	4x12	250	90	130	652.5	368.5	125	4x18	DN 50	170	20	254	38.0
<b>MVIE 1603-6-2G</b>	187	252	215	4x12	250	90	130	787.5	453.5	125	4x18	DN 50	220	20	284	53.2
<b>MVIE 1605-2G</b>	187	252	215	4x12	250	90	130	873.5	493.5	125	4x18	DN 50	262	20	296	81.1
<b>MVIE 1607-6-2G</b>	187	252	215	4x12	250	90	130	987.5	607.5	125	4x18	DN 50	262	20	296	88.3
<b>MVIE 1608</b>	190	252	215	4x14	300	90	130	1112.5	651.5	125	4x18	DN 50	313	20	365	208.5
<b>MVIE 1610</b>	190	252	215	4x14	300	90	130	1219.5	720.5	125	4x18	DN 50	313	20	350	254.5
<b>MVIE 1606</b>	190	252	215	4x14	300	90	130	1032.0	582.5	125	4x18	DN 50	258	20	335	186.5
<b>MVIE 3203-11</b>	260	260	220	4x14	320	120	220	1000.5	551.0	145	8x18	DN 65	258	35	335	193.5
<b>MVIE 3204</b>	260	260	220	4x14	320	120	220	1058.0	597.0	145	8x18	DN 65	313	35	365	213.0
<b>MVIE 3205</b>	260	260	220	4x14	320	120	220	1188.0	689.0	145	8x18	DN 65	313	35	350	262.0

# High-pressure multistage centrifugal pumps



Single pumps

## Dimensions, weights Wilo-Multivert MVIE

Dimensions, weights 1~230 V, 50 Hz

Wilo Multivert...	Dimensions														Weight approx.	
	A	B	c	D	E	F	G	H	h <sub>2</sub>	K	K <sub>1</sub>	Rp/DN	Ø M	T	X	
	[mm]													-	[mm]	
MVIE 3206	260	260	220	4x14	320	120	220	1214.0	689.0	145	8x18	DN 65	351	35	365	299.5
MVIE 3207	260	260	220	4x14	320	120	220	1357.0	832.0	145	8x18	DN 65	351	35	365	324.5
MVIE 5203	260	260	220	4x14	320	105	220	1044.0	583.0	160	8x18	DN 80	313	30	365	210.0
MVIE 5204	260	260	220	4x14	320	105	220	1143.0	644.0	160	8x18	DN 80	313	30	350	256.5
MVIE 5205	260	260	220	4x14	320	105	220	1292.0	767.0	160	8x18	DN 80	351	30	365	292.5
MVIE 7002	264	350	280	4x14	380	140	199	1206.5	757.0	190	8x23	DN 100	258	45	335	213.5
MVIE 7003/1	264	350	280	4x14	380	140	199	1303.0	842.0	190	8x23	DN 100	313	45	365	246.0
MVIE 7004/2	264	350	280	4x14	380	140	199	1426.0	927.0	190	8x23	DN 100	313	45	350	281.0
MVIE 7004	264	350	280	4x14	380	140	199	1452.0	927.0	190	8x23	DN 100	351	45	365	312.0
MVIE 9501	264	350	280	4x14	380	140	199	1134.5	685.0	190	8x23	DN 100	258	45	335	210.0
MVIE 9502/2	264	350	280	4x14	380	140	199	1244.0	783.0	190	8x23	DN 100	313	45	365	244.0
MVIE 9502	264	350	280	4x14	380	140	199	1282.0	783.0	190	8x23	DN 100	313	45	350	275.0
MVIE 9503/2	264	350	280	4x14	380	140	199	1406.0	881.0	190	8x23	DN 100	351	45	365	310.5

<sup>1)</sup> Weight without packaging

Dimensions, weights 1~230 V, 50 Hz

Wilo Multivert...	Dimensions														Weight approx.
	A	B	c	D	E	F	G	H	h <sub>2</sub>	Ø M	Ø N	Ø N	T	X	
	[mm]													[kg]	
MVIE 204 M1, M3	172	212	180	4x12	210	50	100	597.5	330.5	170	42.4	20	205	28.5	
MVIE 204 M2	172	212	180	4x12	210	50	100	597.5	330.5	170	42.4	20	205	28.5	
MVIE 204-2G	172	212	180	4x12	210	50	100	594.5	354.5	155	42.4	20	237	26.6	
MVIE 208-2G	172	212	180	4x12	210	50	100	720.5	436.5	170	42.4	20	254	38.6	
MVIE 214-2G	172	212	180	4x12	210	50	100	949.5	615.5	220	42.4	20	284	57.1	
MVIE 403 M1, M3	172	212	180	4x12	210	50	100	573.5	306.5	170	42.4	20	205	26.0	
MVIE 403 M2	172	212	180	4x12	210	50	100	573.5	306.5	170	42.4	20	205	26.0	
MVIE 403-2G	172	212	180	4x12	210	50	100	546.6	306.5	155	42.4	20	237	26.6	
MVIE 406-2G	172	212	180	4x12	210	50	100	672.5	388.5	170	42.4	20	254	37.9	
MVIE 410-2G	172	212	180	4x12	210	50	100	853.5	519.5	220	42.4	20	284	54.7	
MVIE 414	172	212	100	4x12	210	50	100	1015.0	635.0	262	42.4	20	296	82.4	
MVIE 803-2G	187	252	215	4x12	261	80	130	657.5	373.5	170	42.4	20	254	37.1	
MVIE 806-2G	187	252	215	4x12	261	80	130	807.5	473.5	220	42.4	20	284	53.2	
MVIE 808-2G	187	187	130	4x12	261	80	130	933.0	553.0	262	60.3	20	296	79.9	
MVIE 811-2G	187	187	130	4x12	261	80	130	1053.0	673.0	262	60.3	20	296	86.9	

<sup>1)</sup> Weight without packaging

# High-pressure multistage centrifugal pumps

## Single pumps

### Series description Wilo-Multivert MVIS



#### Design

Non-self-priming multistage pump with glandless pump motor

#### Application

- Water supply and pressure boosting systems

#### Type key

Example: **MVIS 402-1/16/E/3-400-50-2**

<b>MVIS</b>	Multistage vertical high-pressure centrifugal pump in glandless pump technology
<b>4</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>1</b>	Material 1 = 1.4301 (AISI 304)
<b>16</b>	Nominal pressure in bar
<b>K</b>	Seal type EPDM
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>400</b>	Connection voltage in V
<b>50</b>	Frequency in Hz
<b>2</b>	Number of poles

#### Special features/product benefits

- Low-noise (up to 20 dB [A] quieter than conventional pumps)
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304)
- Glandless pump technology
- All relevant components are KTW- and WRAS-certified

#### Equipment/function

- Stainless steel pump in inline design
- Three-phase motor in glandless design

#### Technical data

- Mains connection 3~230 V / 50 Hz (D), 220 V / 60 Hz (D), 400V / 50 Hz (Y) or 380 V / 60 Hz (Y)
- Fluid temperature -15 to +50 °C
- Max. operating pressure 16 bar
- Max. inlet pressure 10 bar
- Protection class IP 44
- Nominal diameters of pipe connections Rp 1, Rp 1½ or Rp 1½, depending on type

#### Materials

- Impellers stainless steel 1.4301
- Stage chambers stainless steel 1.4301
- Pump housing stainless steel 1.4301
- Shaft stainless steel 1.4122
- Seal EPDM (EP 851)
- Lower housing section stainless steel 1.4301
- Pressure shroud stainless steel 1.4301
- Bearing carbon, synthetic resin impregnated
- Pump base EN-GJL-250

#### Scope of delivery

- Pump
- Oval counter flanges Rp 1 to Rp 1 1/2
- Installation and operating instructions

# High-pressure multistage centrifugal pumps



## Single pumps

### Overview of versions Wilo-Multivert MVIS

Wilo-Multivert MVIS	
<b>Materials</b>	
Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	•
Parts in contact with fluid in 1.4301 (AISI 304)	•
Parts in contact with fluid in 1.4404 (AISI 316L)	–
<b>Seal version</b>	
Seal	EPDM
<b>Hydraulic connection</b>	
Threaded connection	–
Oval flange	•
Round flange	–
Victaulic quick coupling	–
<b>Motor version</b>	
Individual motors	–
1~230 V, 50 Hz	–
3~230 V, 50 Hz	•
3~400 V, 50 Hz	•
3~500 V, 50 Hz	–
1~110 V, 60 Hz	–
1~220 V, 60 Hz	–
3~380 V, 60 Hz	–
3~400 V, 60 Hz	–
3~440 V, 60 Hz	–
3~460 V, 60 Hz	–
3~480 V, 60 Hz	–
3~380 V to 440 V and 50 Hz to 60 Hz	–
Protection class	IP 44
Explosion protection	–
Motors with PTC thermistors	–
Motors with UL certificates	optional
Motors with CSA certificates	optional
Thermal motor protection switch	–
Speed can be controlled via external FC	•
Integrated frequency converter	–
<b>Painting</b>	
Individual painting	•

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Multivert MVIS

#### Wilo-Multivert MVIS

##### Potable water approvals

KTW	•
WRAS	•

• = available, - = not available

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Technical data Wilo-Multivert MVIS

	Wilo-Multivert MVIS ...		
	2..	4..	8..
<b>Approved fluids</b>			
Potable water, heating water, process water	•	•	•
Condensate	-	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	•	•	•
<b>Power</b>			
Max. volume flow [m <sup>3</sup> /h]	4.5	8.0	14.0
Max. delivery head [m]	114	108	70
Fluid temperature	-10 °C ... 50 °C	-10 °C ... 50 °C	-10 °C ... 50 °C
Max. ambient temperature	40	40	40
Operating pressure	16	16	16
Inlet pressure	6	6	6
Nominal speed	2800	2800	2800
<b>Motor</b>			
Mains connection 1~ (permitted voltage tolerance +/- 10%)		-	
Mains connection 3~ (permitted voltage tolerance +/- 10%)		230 V, 50 Hz Δ 400 V, 50 Hz Y	
Insulation class	F	F	F
Radio shielding degree	N	N	N
Protection class	IP 44	IP 44	IP 44
<b>Connections</b>			
Nominal diameter of pipe connections on suction side	1	1½	1½
Nominal diameter of pipe connections on pressure side	-	-	-
Flange connections PN 16/PN 25	-	-	-
Vicatulic connections	-	-	-
<b>Materials</b>			
Impeller (standard)		1.4301	
Stage chambers		1.4301	
Pump housing		1.4301	
Pump shaft		1.4122	
Seal		EPDM	
Housing cover		-	
Lower housing section		1.4301	

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Multivert MVIS

	Wilo-Multivert MVIS ...		
	2..	4..	8..
Mechanical seal		–	
Pressure shroud		1.4301	
Bearing		Carbon, synthetic resin impregnated	
Pump base		EN-GJL-250	
Pump base (in contact with the fluid)		–	

• = available, – = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

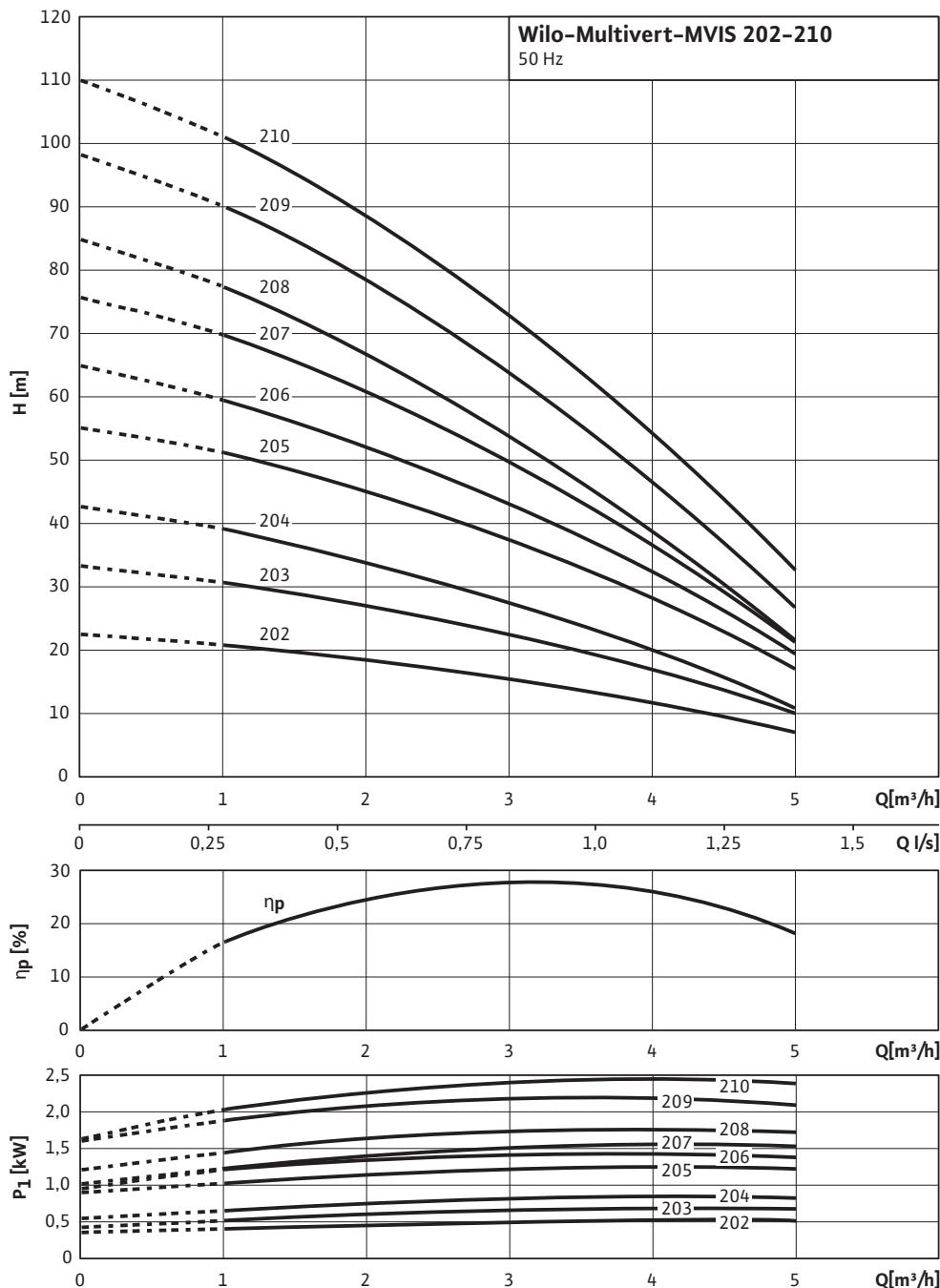
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVIS

Wilo-Multivert MVIS 202 – 210



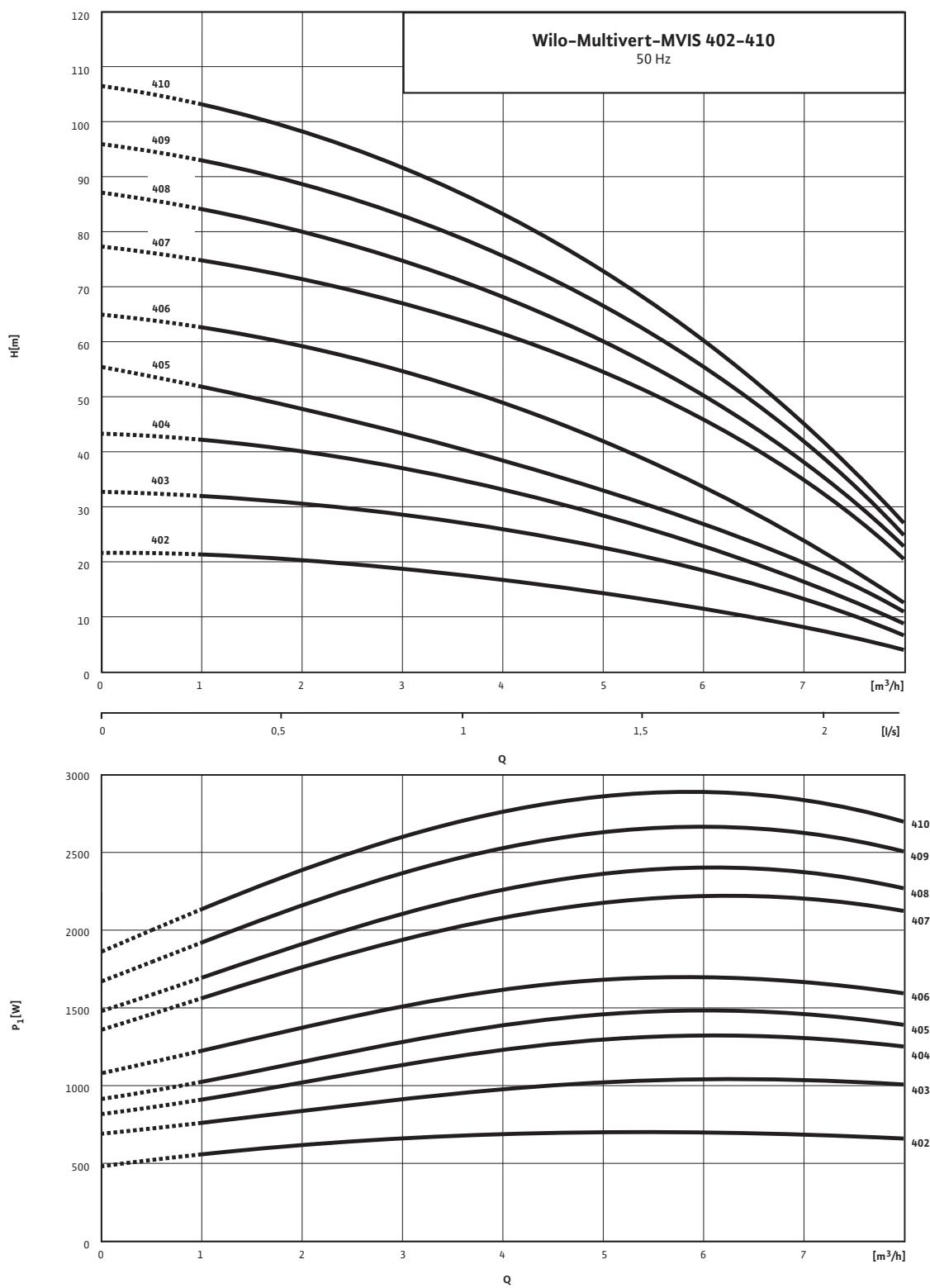
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVIS

#### Wilo-Multivert MVIS 402 – 410



Pump curves in accordance with ISO 9906, class 2

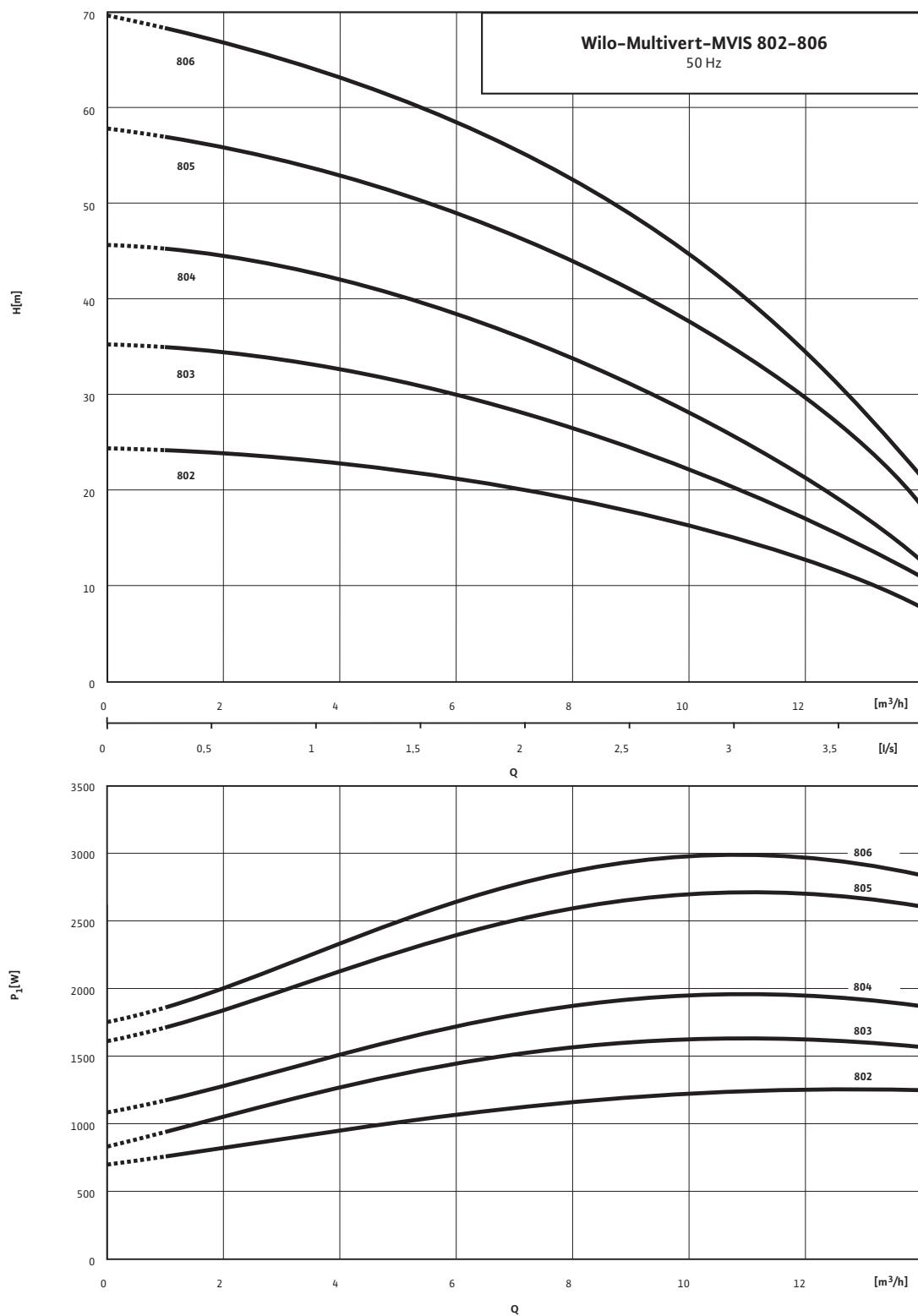
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVIS

#### Wilo-Multivert MVIS 802 – 806



Pump curves in accordance with ISO 9906, class 2

Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Terminal diagram, motor data Wilo-Multivert MVIS

Terminal diagram

Terminal diagram



#### Motor data

Wilo Multivert...	Nominal current		Speed [rpm]	Nominal power [kW]
	I <sub>N</sub> (1~230 V, 50 Hz) [A]	I <sub>N</sub> (3~400 V, 50 Hz) [A]		
	V	P <sub>1</sub>		
MVIS 202	2.10	1.20	2800	0.51
MVIS 203	2.60	1.50	2760	0.72
MVIS 204	3.00	1.70	2700	0.88
MVIS 205	4.50	2.60	2850	1.20
MVIS 206	4.90	2.80	2850	1.38
MVIS 207	5.20	3.00	2800	1.53
MVIS 208	5.60	3.20	2760	1.69
MVIS 209	8.00	4.60	2880	2.14
MVIS 210	8.50	4.90	2870	2.33
MVIS 402	2.60	1.50	2800	0.69
MVIS 403	4.20	2.40	2880	1.02
MVIS 404	4.50	2.60	2850	1.26
MVIS 405	5.20	3.00	2800	1.48
MVIS 406	5.60	3.20	2750	1.70
MVIS 407	8.00	4.60	2880	2.20
MVIS 408	8.50	4.90	2860	2.40
MVIS 409	9.20	5.30	2850	2.69
MVIS 410	9.70	5.60	2830	2.94
MVIS 802	4.50	2.60	2850	1.25
MVIS 803	5.40	3.10	2800	1.60
MVIS 804	6.30	3.60	2700	1.95
MVIS 805	9.20	5.30	2850	2.67
MVIS 806	9.70	5.60	2800	2.98

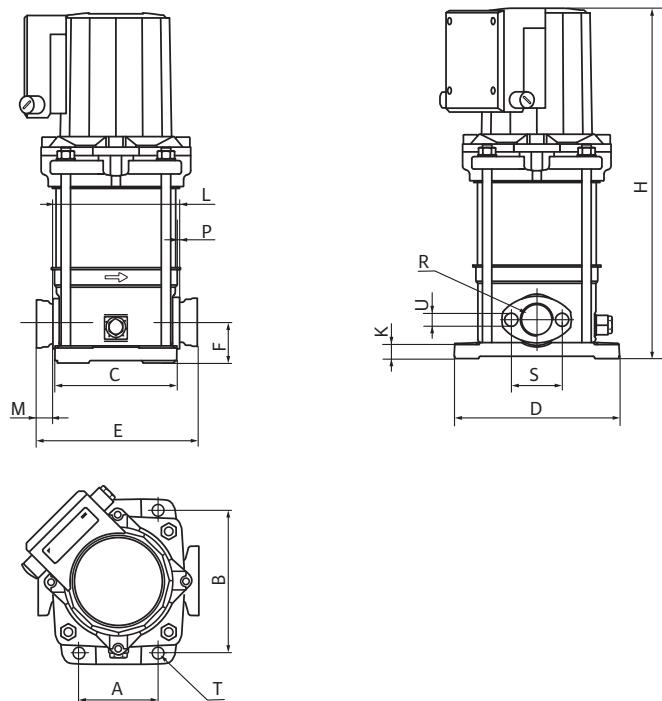
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Dimensions, weights Wilo-Multivert MVIS

### Dimension drawing



### Dimensions, weights

Wilo Multivert...	Nominal connection diameters DN	Dimensions													Weight approx.	
		-	A	B	C	D	E	F	H	K	L	M	P	S	T	U
		-	[mm]													-
<b>MVIS 202</b>	Rp1	100	180	157	212	204	50	378	20	160	20	2	75	12	M10	16.0
<b>MVIS 203</b>	Rp1	100	180	157	212	204	50	378	20	160	20	2	75	12	M10	17.0
<b>MVIS 204</b>	Rp1	100	180	157	212	204	50	402	20	160	20	2	75	12	M10	17.5
<b>MVIS 205</b>	Rp1	100	180	157	212	204	50	446	20	160	20	2	75	12	M10	22.5
<b>MVIS 206</b>	Rp1	100	180	157	212	204	50	470	20	160	20	2	75	12	M10	23.0
<b>MVIS 207</b>	Rp1	100	180	157	212	204	50	494	20	160	20	2	75	12	M10	23.5
<b>MVIS 208</b>	Rp1	100	180	157	212	204	50	518	20	160	20	2	75	12	M10	23.5
<b>MVIS 209</b>	Rp1	100	180	157	212	204	50	542	20	160	20	2	75	12	M10	29.0
<b>MVIS 210</b>	Rp1	100	180	157	212	204	50	596	20	160	20	2	75	12	M10	29.5
<b>MVIS 402</b>	Rp¼	100	180	157	212	204	50	378	20	160	20	2	75	12	M10	16.5
<b>MVIS 403</b>	Rp¼	100	180	157	212	204	50	398	20	160	20	2	75	12	M10	21.5
<b>MVIS 404</b>	Rp¼	100	180	157	212	204	50	422	20	160	20	2	75	12	M10	22.0
<b>MVIS 405</b>	Rp¼	100	180	157	212	204	50	446	20	160	20	2	75	12	M10	22.5
<b>MVIS 406</b>	Rp¼	100	180	157	212	204	50	470	20	160	20	2	75	12	M10	23.0
<b>MVIS 407</b>	Rp¼	100	180	157	212	204	50	524	20	160	20	2	75	12	M10	23.5
<b>MVIS 408</b>	Rp¼	100	180	157	212	204	50	548	20	160	20	2	75	12	M10	28.5
<b>MVIS 409</b>	Rp¼	100	180	157	212	204	50	572	20	160	20	2	75	12	M10	29.0
<b>MVIS 410</b>	Rp¼	100	180	157	212	204	50	596	20	160	20	2	75	12	M10	29.5

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVIS

Dimensions, weights																	
Wilo Multivert...	Nominal connection dia-meters DN	Dimensions													Weight approx.		
		-	A	B	C	D	E	F	H	K	L	M	P	S	T	U	m
		-	[mm]													-	[kg]
<b>MVIS 802</b>	Rp½	130	215	187	252	250	80	425	20	200	25	4	100	12	M12	25.0	
<b>MVIS 803</b>	Rp½	130	215	187	252	250	80	455	20	200	25	4	100	12	M12	25.5	
<b>MVIS 804</b>	Rp½	130	215	187	252	250	80	485	20	200	25	4	100	12	M12	26.0	
<b>MVIS 805</b>	Rp½	130	215	187	252	250	80	545	20	200	25	4	100	12	M12	31.5	
<b>MVIS 806</b>	Rp½	130	215	187	252	250	80	575	20	200	25	4	100	12	M12	32.0	

1) "E" dimension including counter flanges (2 x 25 mm)

2) "L" dimension without counter flanges

3) Weight including counter flanges, without packaging

# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Series description Wilo-Multivert MVISE



#### Design

Non-self-priming multistage pump with glandless pump motor and integrated frequency converter

#### Application

• Water supply and pressure boosting

#### Type key

Example: **MVISE 402-1/16/E/3-2/2G**

<b>MVISE</b>	Multistage vertical high-pressure centrifugal pump in glandless pump technology
<b>4</b>	Volume flow in m <sup>3</sup> /h
<b>02</b>	Number of impellers
<b>1</b>	Material 1 = 1.4301 (AISI 304)
<b>16</b>	Nominal pressure in bar
<b>E</b>	Seal type E = EPDM
<b>3</b>	1 = 1~ (single-phase current) 3 = 3~ (three-phase current)
<b>2</b>	Number of poles
<b>2G</b>	Frequency converter, second generation

#### Special features/product benefits

- Easy commissioning
- Glandless pump technology
- Low-noise (up to 20 dB [A] quieter than conventional pumps)
- Integrated frequency converter
- All parts that come in contact with the fluid are made of stainless steel 1.4301 (AISI 304)
- All relevant components are KTW- and WRAS-certified

#### Technical data

- Mains connection 3~400 V/50 Hz
- Fluid temperature -15 to +50 °C
- Max. operating pressure 16 bar
- Max. inlet pressure 10 bar
- Protection class IP 44
- Nominal diameters of pipe connections Rp 1, Rp 1½ or Rp 1¾

#### Materials

- Impellers and stage chambers
- stainless steel 1.4301/1.4404 (MVI 16-6 only in 1.4301)
- Pump housing stainless steel 1.4301 / 1.4404

- Shaft, depending on type, stainless steel 1.4301 / 1.4404
- Seal EPDM (EP 851) / Viton
- Housing cover stainless steel 1.4301 / 1.4404
- Lower housing section stainless steel 1.4301 / 1.4404
- Mechanical seal B-carbon/tungsten carbide, SiC/carbon
- Pressure shroud stainless steel 1.4301 / 1.4404
- Bearing tungsten carbide
- Pump base EN-GJL-250

#### Scope of delivery

- Pump
- Oval counter flanges Rp 1 to Rp 1 1/2 (only with PN 16 version)
- Installation and operating instructions

# High-pressure multistage centrifugal pumps

## Single pumps

### Overview of versions Wilo-Multivert MVISE

#### Wilo-Multivert MVISE-2G

##### Materials

Pump base EN-GJL-250 with cataphoretic coating, hydraulics in 1.4301/1.4404 (AISI 304/316L)	•
Parts in contact with fluid in 1.4301 (AISI 304)	•
Parts in contact with fluid in 1.4404 (AISI 316L)	–

##### Seal version

Seal	EPDM
------	------

##### Hydraulic connection

Threaded connection	–
Oval flange	•
Round flange	–
Victaulic quick coupling	•

##### Motor version

Individual motors	–
1~230 V, 50 Hz	–
3~230 V, 50 Hz	–
3~400 V, 50 Hz	•
3~500 V, 50 Hz	–
1~110 V, 60 Hz	–
1~220 V, 60 Hz	–
3~380 V, 60 Hz	–
3~400 V, 60 Hz	–
3~440 V, 60 Hz	–
3~460 V, 60 Hz	–
3~480 V, 60 Hz	–
3~380 V to 440 V and 50 Hz to 60 Hz	–
Protection class	IP 44
Explosion protection	–
Motors with PTC thermistors	–
Motors with UL certificates	optional
Motors with CSA certificates	optional
Thermal motor protection switch	–
Speed can be controlled via external FC	–
Integrated frequency converter	–
Painting	
Individual painting	•

# High-pressure multistage centrifugal pumps

Single pumps



## Overview of versions Wilo-Multivert MVISE

### Wilo-Multivert MVISE-2G

#### Potable water approvals

KTW

•

WRAS

•

• = available, - = not available

Single pumps

# High-pressure multistage centrifugal pumps

## Single pumps

### Technical data Wilo-Multivert MVISE

	Wilo-Multivert MVISE .. - 2G		
	2..	4..	8..
<b>Approved fluids</b>			
Potable water, heating water, process water	•	•	•
Condensate	-	-	-
Water/glycol mixtures (max. 40 %; with admixtures exceeding 10 %, the pumping data must be checked)	•	•	•
Other low viscous fluids (without abrasive or long-fibre constituents, provided they do not corrode the materials used)	-	-	-
<b>Power</b>			
Max. volume flow [m <sup>3</sup> /h]	3.0	5.0	8.0
Max. delivery head [m]	66	67	68
Fluid temperature	-10 °C ... 50 °C	-10 °C ... 50 °C	-10 °C ... 50 °C
Max. ambient temperature	40	40	40
Operating pressure	10	10	10
Inlet pressure	6	6	6
Nominal speed	2900	2900	2900
<b>Motor</b>			
Mains connection 1~ (permitted voltage tolerance +/- 10%)			
Mains connection 3~ (permitted voltage tolerance +/- 10%)		400 V, 50 Hz Y or 400 V, 60 Hz Y	
Insulation class	F	F	F
Emitted interference		EN 50081-1	
Interference resistance	EN 50082-2	EN 50082-2	EN 50082-2
Protection class	IP 44	IP 44	IP 44
<b>Connections</b>			
Nominal diameter of pipe connections on suction side	1	1	1½
Nominal diameter of pipe connections on pressure side	1	1	1
Flange connections PN 16/PN 25	-	-	-
Vicatualic connections	-	-	-
<b>Materials</b>			
Impeller (standard)		1.4301	
Stage chambers		1.4301	
Pump housing		1.4301	
Pump shaft		1.4122	
Seal		EPDM	
Housing cover			

# High-pressure multistage centrifugal pumps



## Single pumps

### Technical data Wilo-Multivert MVISE

	Wilo-Multivert MVISE .. – 2G		
	2..	4..	8..
Lower housing section		1.4301	
Mechanical seal			
Pressure shroud		1.4301	
Bearing		Carbon, synthetic resin impregnated	
Pump base		EN-GJL-250	
Pump base (in contact with the fluid)		–	

• = available, – = not available

#### Note on inlet pressure

The maximum inlet pressure is calculated by subtracting the maximum delivery head of the pump at Q= 0 from the maximum operating pressure of the system.

#### Note on materials

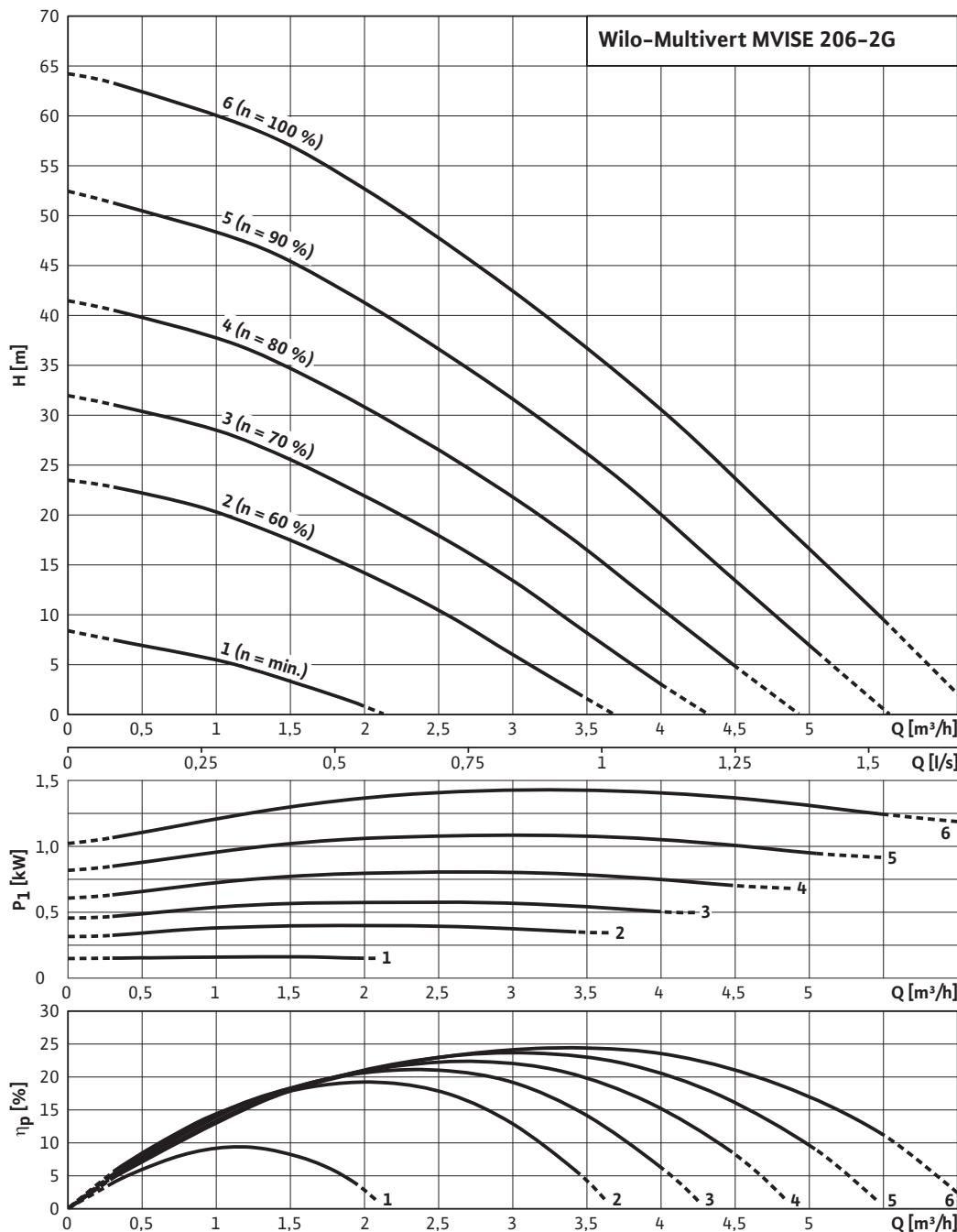
1.4301 corresponds to AISI 304, 1.4404 corresponds to AISI 316L.

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 206-2G



Pump curves in accordance with ISO 9906, class 2

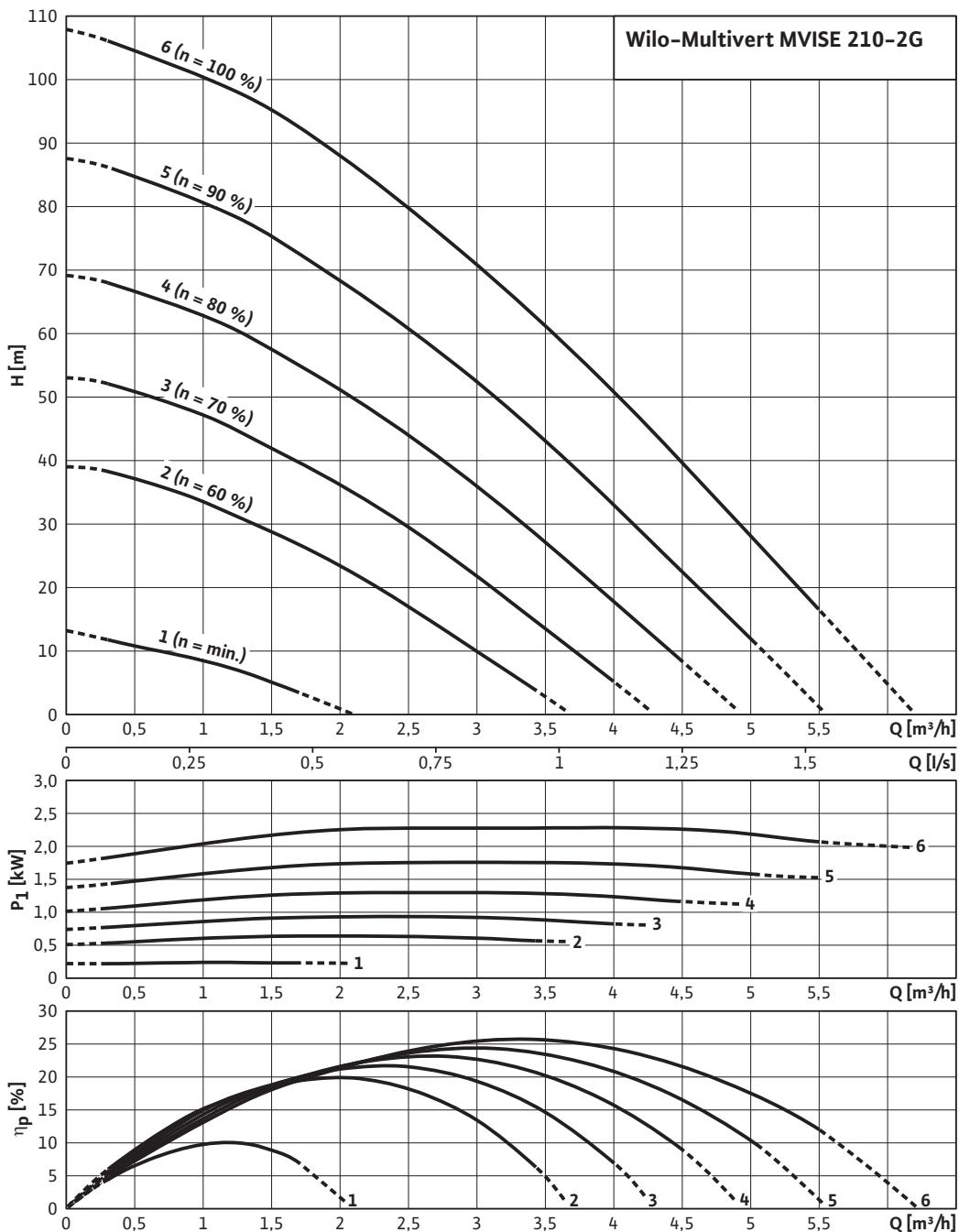
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 210-2G



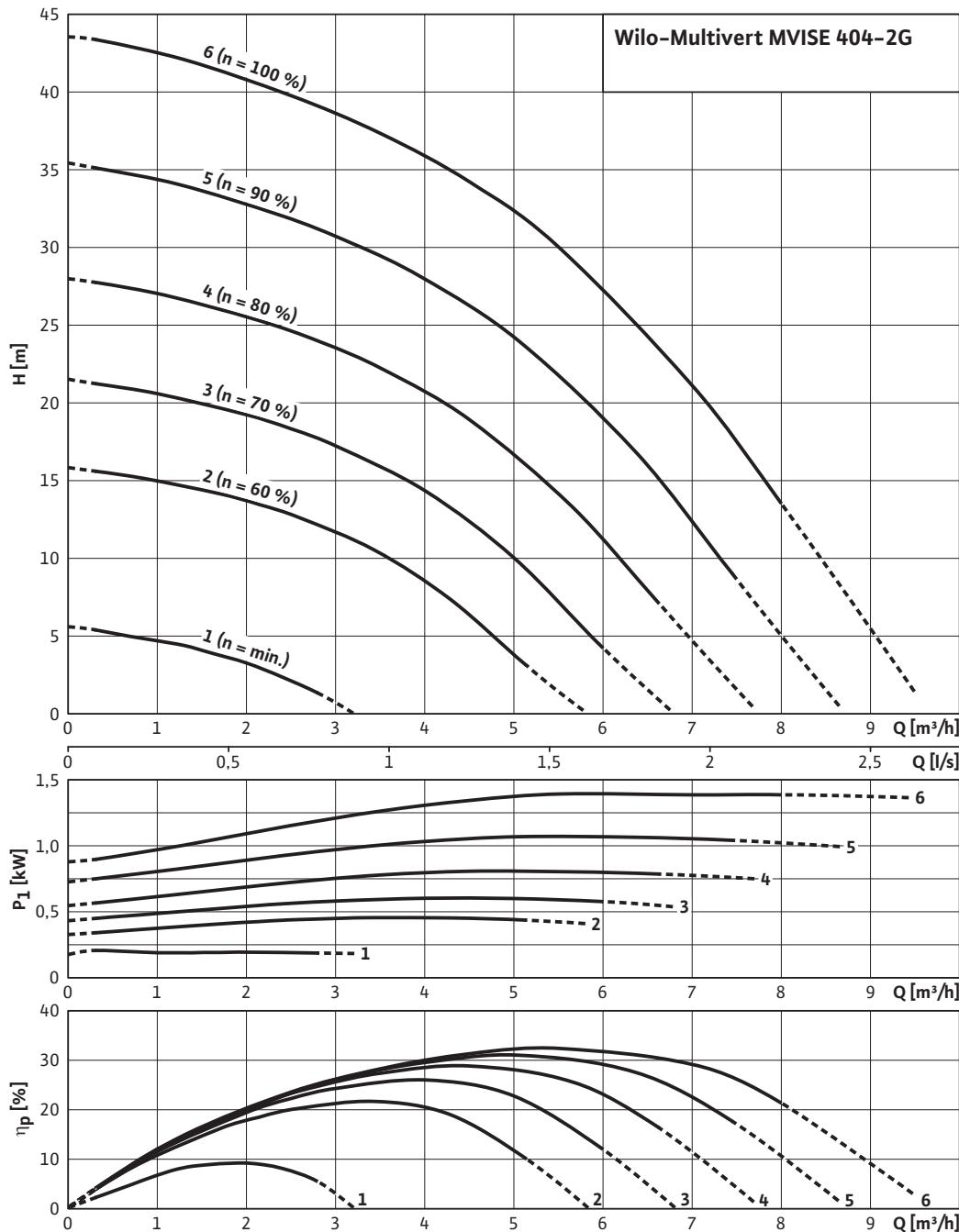
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 404-2G



Pump curves in accordance with ISO 9906, class 2

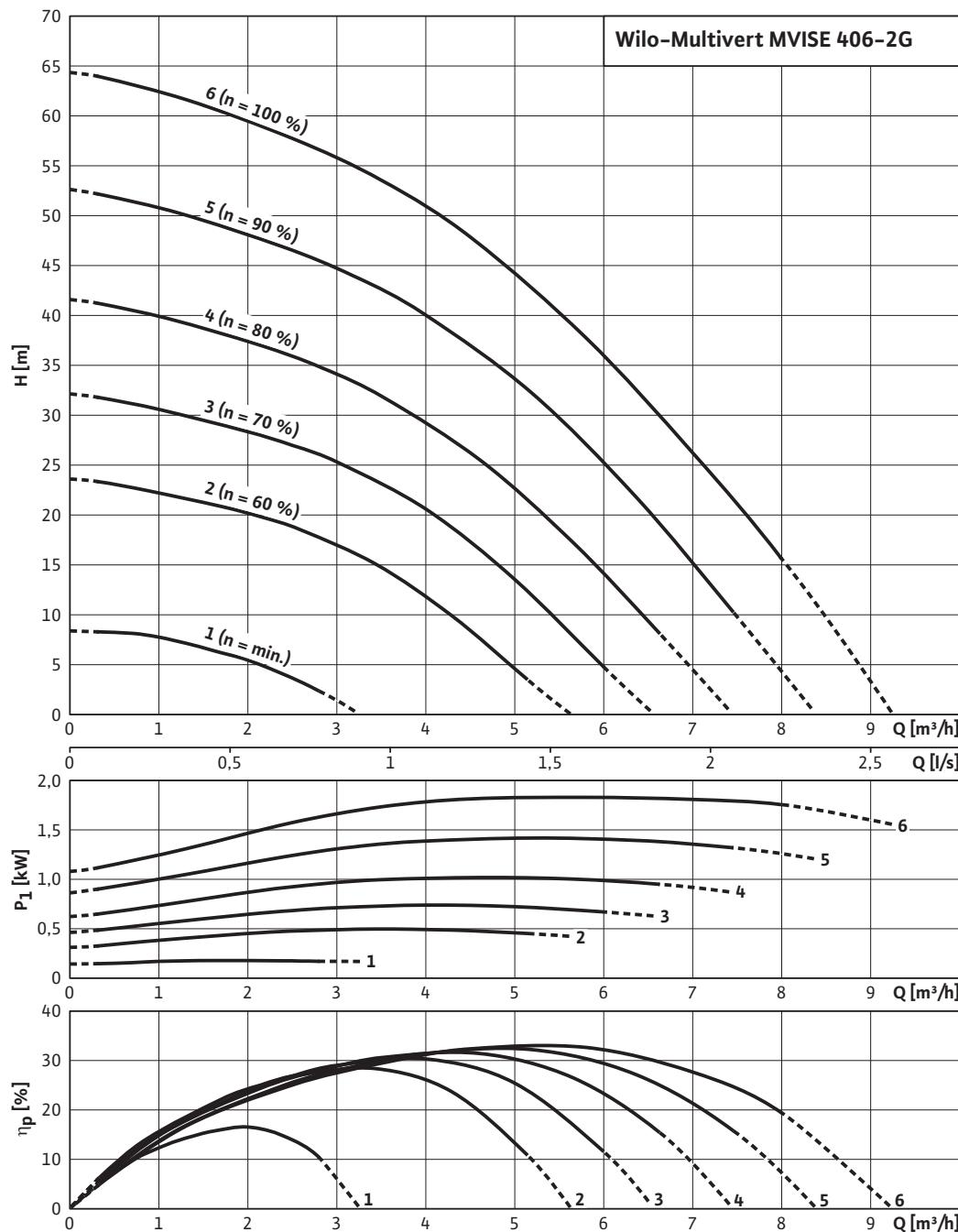
# High-pressure multistage centrifugal pumps

**WILO**

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 406-2G



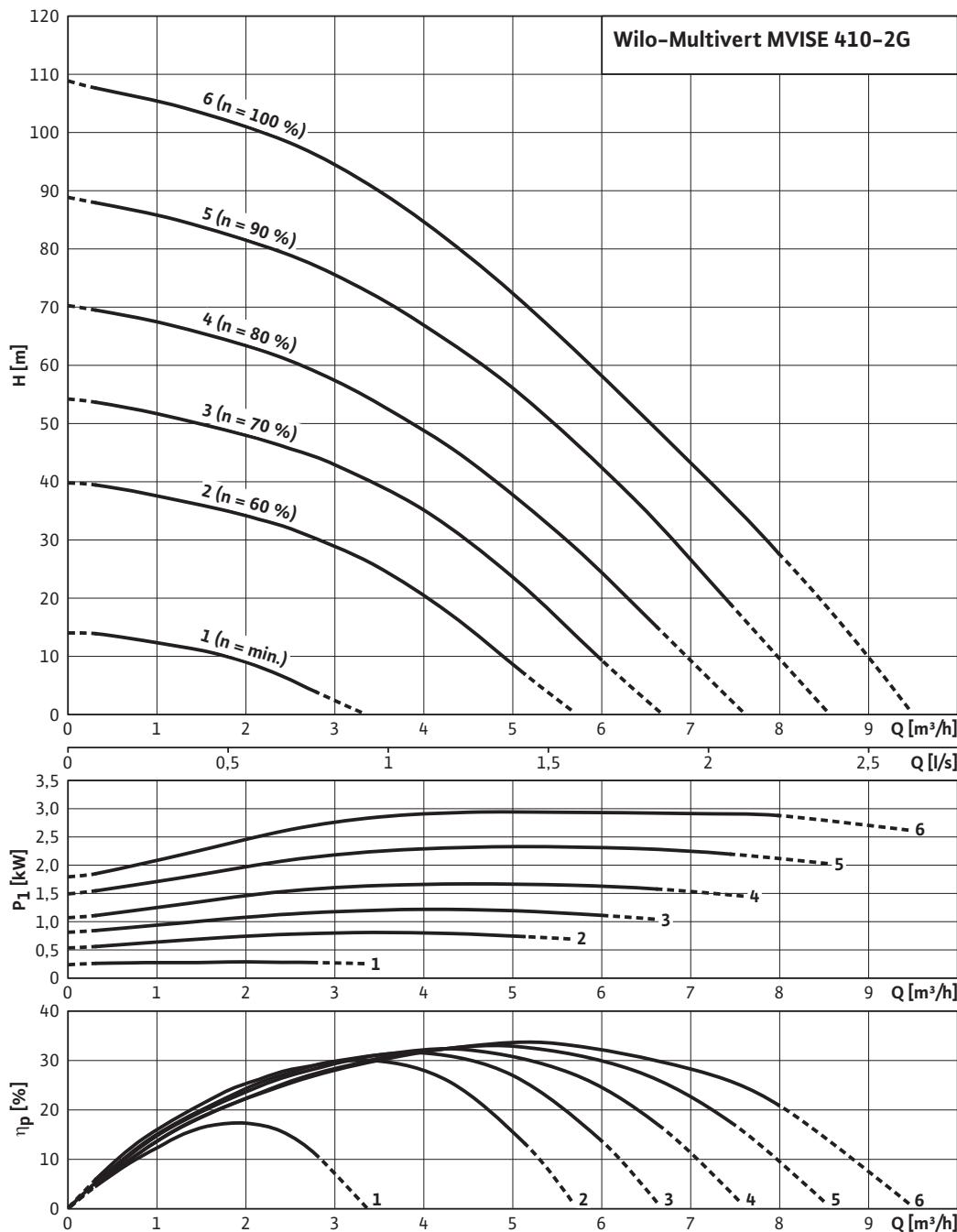
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 410-2G



Pump curves in accordance with ISO 9906, class 2

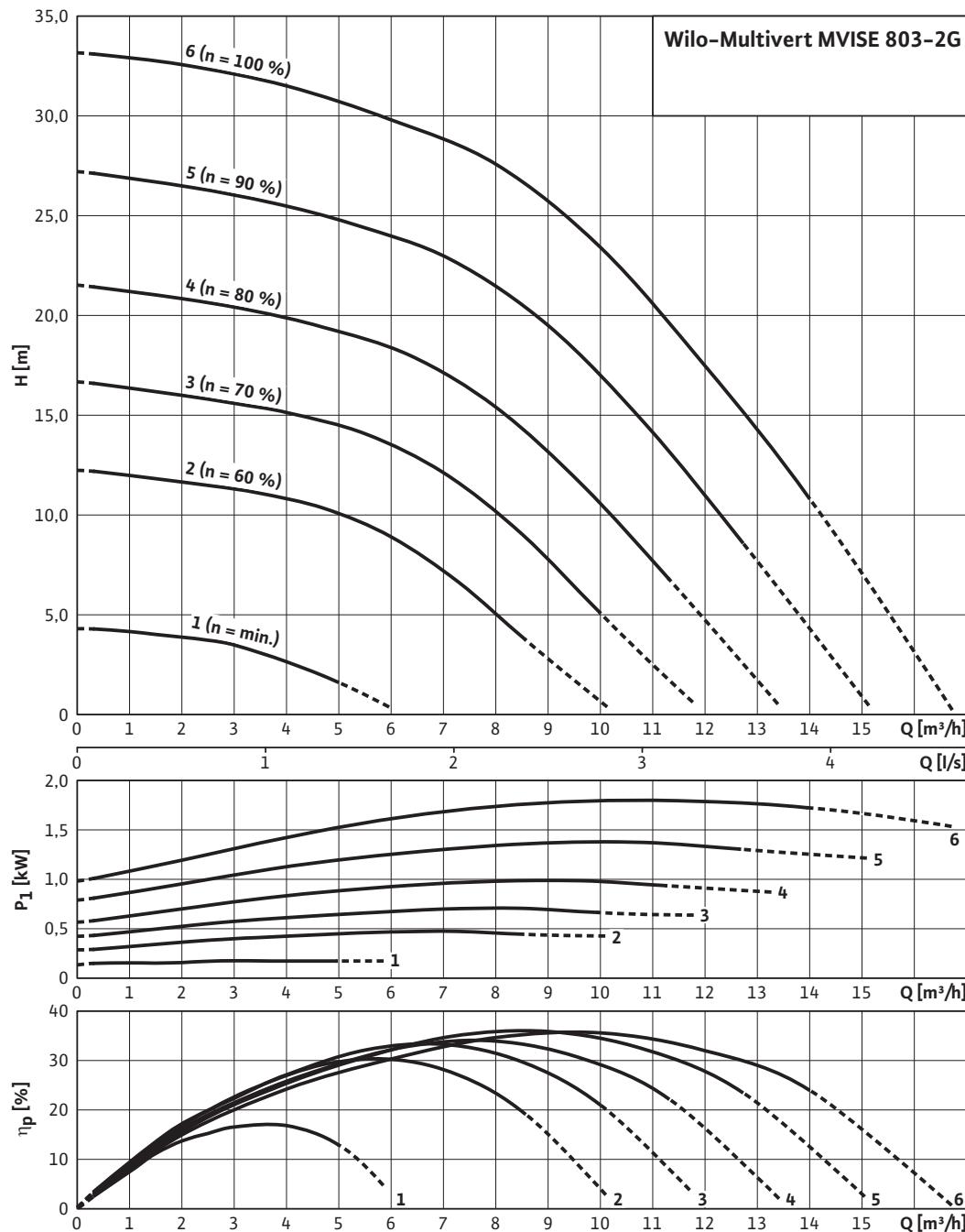
# High-pressure multistage centrifugal pumps

**WILO**

Single pumps

## Pump curves Wilo-Multivert MVISE

### Wilo-Multivert MVISE 803-2G



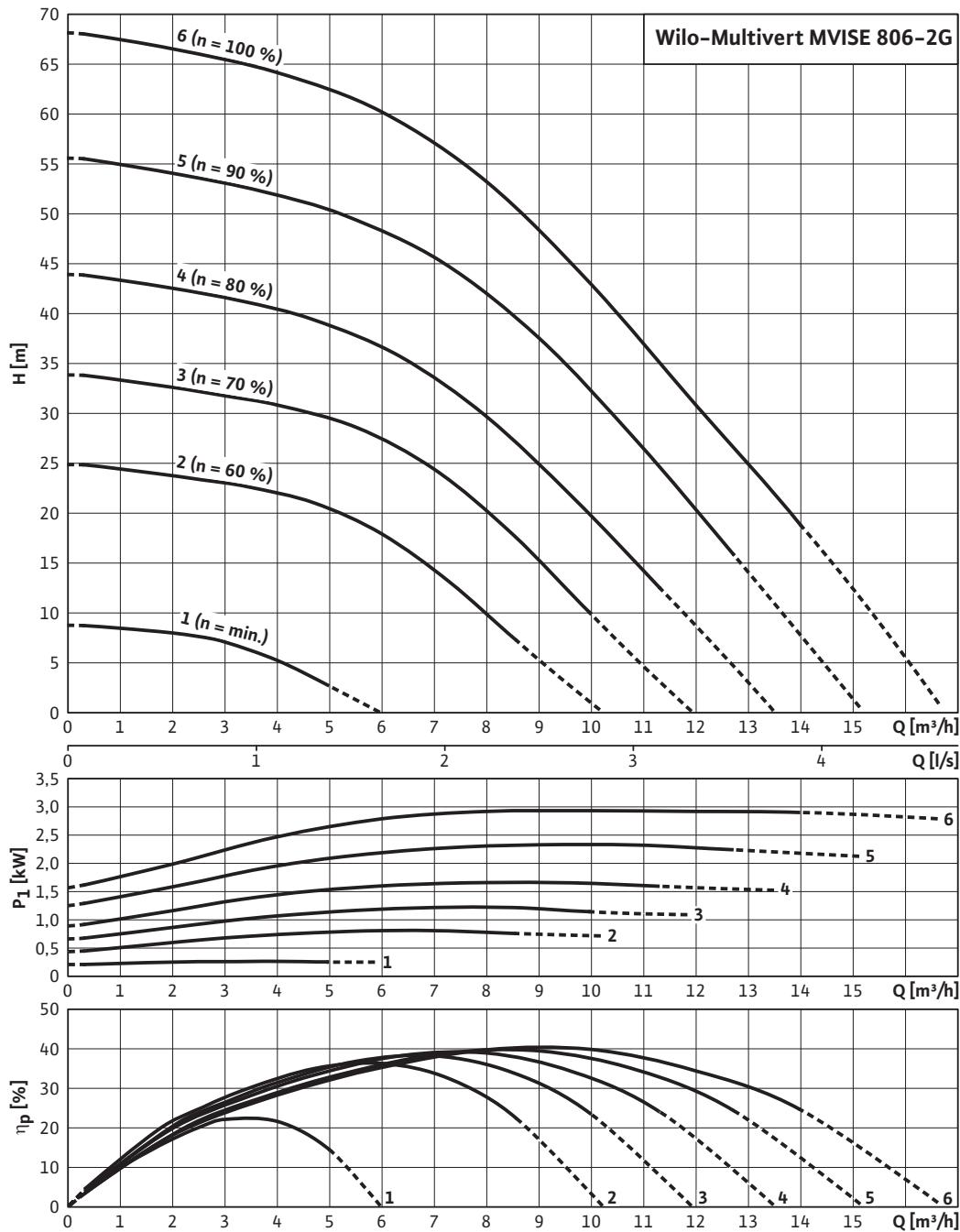
Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

## Single pumps

### Pump curves Wilo-Multivert MVISE

#### Wilo-Multivert MVISE 806-2G



Pump curves in accordance with ISO 9906, class 2

# High-pressure multistage centrifugal pumps

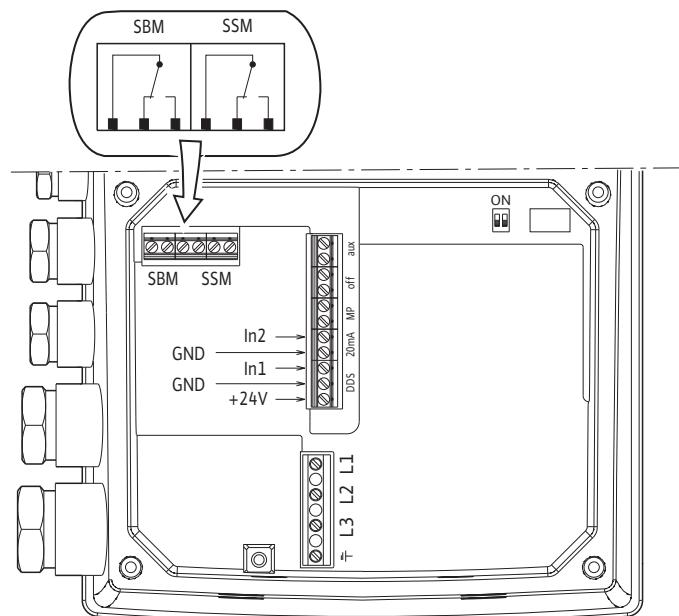
**WILO**

Single pumps

## Terminal diagram, motor data Wilo-Multivert MVISE

### Terminal diagram

3~400 V ≤ 7,5 kW



### Motor data

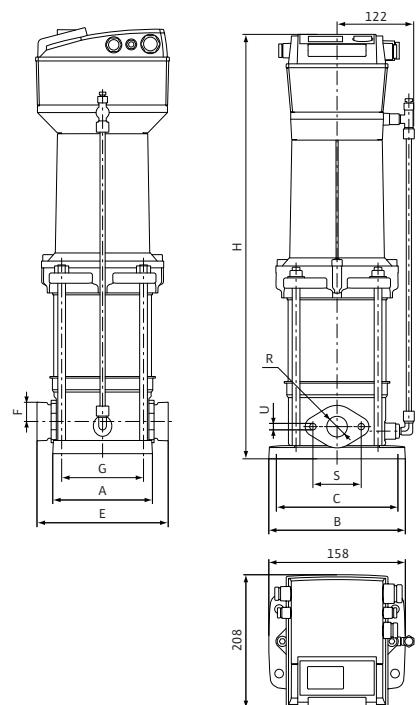
Wilo Multivert...	Frequency	Mains voltage	Nominal power	Nominal current	Speed
	f [Hz]	-	P <sub>1</sub> [kW]	I <sub>N</sub> (3~400 V, 50 Hz) [A]	v [rpm]
MVISE 206-2G	50	3~400	1.42	4.20	2880
MVISE 210-2G	50	3~400	2.28	6.50	2870
MVISE 404-2G	50	3~400	1.40	4.20	2900
MVISE 406-2G	50	3~400	1.84	4.20	2780
MVISE 410-2G	50	3~400	2.95	6.50	2780
MVISE 803-2G	50	3~400	1.80	4.20	2840
MVISE 806-2G	50	3~400	2.93	6.50	2790

# High-pressure multistage centrifugal pumps

## Single pumps

### Dimensions, weights Wilo-Multivert MVISE

#### Dimension drawing



#### Dimensions, weights

MVISE 206-2G	Dimensions										Weight approx.
	R	A	W	C	E	F	G	H	S	U	
	[Rp]	[mm]									
Wilo Multivert...	1	160	212	180	204	50	100	630	75	M10	29.0
Wilo Multivert...	1	160	212	180	204	50	100	756	75	M10	35.0
Wilo Multivert...	1½	160	212	180	204	50	100	582	75	M10	28.0
Wilo Multivert...	1½	160	212	180	204	50	100	630	75	M10	29.0
Wilo Multivert...	1½	160	212	180	204	50	100	756	75	M10	35.0
Wilo Multivert...	1½	200	252	215	248	80	130	615	100	M12	30.0
Wilo Multivert...	1½	200	252	215	248	80	130	735	100	M12	35.0

<sup>1)</sup> "E" dimension including counter flanges (2 x 25 mm)

<sup>2)</sup> Weight without packaging

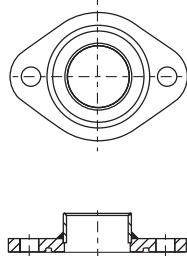
# High-pressure multistage centrifugal pumps

**WILO**

## Accessories

### Mechanical accessories

#### Stainless steel counter flange (round)



Stainless steel counter flange for cases in which contact between the fluid and the standard-equipped GG – flanges is not desired.

##### > Materials

Counter flange: PN 16 1.4301 (oval)/1.4404 (round)

Screws: St galvanized

Seal: EPDM/Viton

A	B	C	D
G1	99	75	26±1
G1 ¼	99	75	27±1
G1 ½	130	100	29±1

##### > Scope of delivery

The set contains 2 counter flanges and screws. **Please order seals separately!**

Depending on the pumping application: EPDM version or VITON version.

##### > Technical data

Permitted fluid: see stability list

Operating pressure: 16 / 25 bar (see also pump application limits)

Fluid temperature: 50° / 120° C

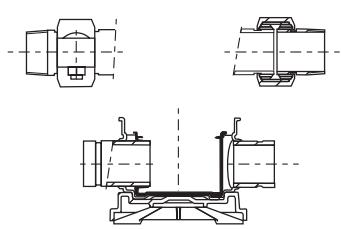
#### Steel counter flange (round)

not illustrated

The kit consists of 2 x counter flanges as round flanges in steel version for HELIX V, MVI pump series.

Accessories

### Victaulic coupling



Quick-release couplings for pumps with Victaulic connection ports.

##### > Materials

Coupling halves: GG galvanized

Screws: St galvanized

Seal: EPDM/Viton

Union inserts: 1.4435

Pump type	Ø D	DN	Ø F	L	H	M
MVI / MVIS 200/400	42.2	34.4	R1 ¼	219	50	320 – 323
MVI / MVIS 800/1600	60.3	52.3	R2	261	80	378

##### > Scope of delivery

The set contains 2 couplings, including with screws, seals and installation instructions.

##### > Technical data

Permitted fluid: see stability list

Operating pressure: 16 / 25 bar (see also pump application limits)

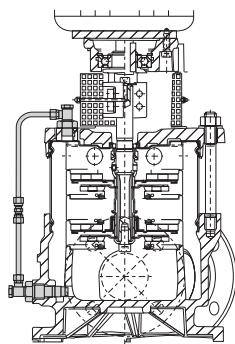
Fluid temperature: 50 °C / 120 °C

# High-pressure multistage centrifugal pumps

## Accessories

### Mechanical accessories

#### Bypass line



The use of bypass lines is always practical in cases where the fluid contains large amounts of air or oxygen or emits gases in any other way. The bypass line prevents any concentration of gas or air to a large extent in the upper area of the pump hydraulics of MVI pumps and thus in the vicinity of the mechanical seal.

> **Typical user benefits:**

Pumping condensate / pressure boosting where the pump(s) pump out of atmospherically ventilated tanks.

> **Materials**

Screwed connection: MS nickel-plated

Seal: EPDM/Viton

All other components: 1.4404

> **Scope of delivery**

The set includes all components required for constructing the complete bypass line.

> **Technical data**

Operating pressure: max. 25 bar (see also pump application limits)

Fluid temperature: max. 120 °C

Nominal connection diameter: MVI 2/4/8/16/32;  $\frac{1}{8}$ "

#### Pressure sensor

not illustrated

For the installation of an automatic pressure-dependent system with speed-controlled pumps of the MVISE, MVIE and MHIE series. The sensor is installed on the discharge side.

**Important:**

Please observe the installation notes in the installation and operating instructions for the pumps.

> **Technical data**

Pressure range: 0 – 10 bar

Signal range: 4 – 20 mA

> **Option**

Sensors for pressure ranges

0 – 16, 0 – 25, 0 – 40 bar

#### PTC thermistor tripping unit

not illustrated

Tripping unit for switch cabinet installation for all MVI series pumps that are equipped with PTC thermistor sensors.

# Wilo Catalogue Edition 2009

**Heating, air-conditioning, cooling**

**Circulation pumps**

Glandless pumps and accessories, package heat exchanger assembly

**Catalogue A1**



**Heating, air-conditioning, cooling**

**Glanded pumps**

Pumps with in-line design and accessories

**Catalogue A2**



**Heating, air-conditioning, cooling, water supply**

**Monobloc and norm pumps, axial split case pumps**

Pumps and accessories

**Catalogue A3**



**Water supply**

**Domestic water supply, rainwater utilisation**

Pumps, systems and accessories

**Catalogue B1**



**Water supply**

**Borehole pumps, 3" to 24"**

Pumps and systems for building services, domestic, municipal and industrial water supply



**Catalogue B2**



**Water supply**

**High-pressure multistage centrifugal pumps**

Pumps and accessories

**Catalogue B3**



**Water supply**

**Pressure boosting systems**

Single-pump and multi-pump systems in dry well installations

**Catalogue B4**



**Water supply**

**Sprinkler pumps with VdS approval**

Borehole pumps and accessories



**Catalogue B5**



**Drainage and sewage**

**Drainage pumps**

Submersible pumps, self-priming pumps and accessories



**Catalogue C1**



**Drainage and sewage**

**Sewage pumps, DN 32 to DN 600**

Submersible pumps and accessories for building services, municipal and industrial applications



**Catalogue C2**



**Drainage and sewage**

**Wastewater and sewage lifting units, pumps stations**

Pump systems and accessories

**Catalogue C3**



**Drainage and sewage**

**Submersible mixers**

Mixers, re-circulation pumps, jet cleaners, grit collector pumps and accessories for municipal application in water treatment systems



**Catalogue C4**





Pumpen Intelligenz.

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