GRUNDFOS **DATABOOKLET**

POMONA

Self-priming centrifugal pumps
50 Hz

BE THINK INNOVATE

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Introduction

Universal self-priming wastewater pumps with electric motors or combustion motors for stationary, portable and mobile use.

Fig. 1 POMONA PO23 with electric motor on carrying frame

POMONA, the self-priming wastewater pump, is a well proven and reliable product for numerous applications in construction industry, machine industry and trade. It is characterised by its rugged construction and wide range of applications within water supply and dewatering. These self-priming wastewater pumps have a wide range of applications. The customer can select between the stationary variant on a base frame, the portable variant on a carrying frame and the mobile variant on a trolley.

Approvals

Fig. 2 CE mark and approval

Application

POMONA pumps are designed for applications such as these:

- dewatering of construction sites
- draining of stormwater
- groundwater level control
- irrigation of gardens and parks
- water supply in agriculture and horticulture
- well-tube injection
- emergency pumping - flooded areas, fire etc.
- draining of yachts and motor boats.

The pumps are suitable for both temporary and permanent installation.

Cutaway view

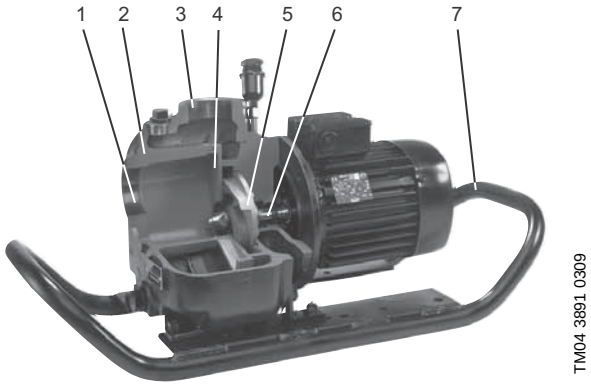


Fig. 3 Cutaway view of POMONA PO23 with electric motor on carrying frame

Pos.	Designation
1	Suction side
2	Pump Housing
3	Pressure side
4	Wear plate
5	Impeller
6	Housing cover with mechanical seal
7	Supporting frame

General data

Features and benefits

- POMONA can be supplied with electric motors or internal combustion engines.
  - Flexibility with independence.
- Pump and driver form a robust and compact close-coupled unit with small overall dimensions.
  - Compact unit and long life.
- The pump has no valves or non-return flaps.
  - Less operational parts, thus less risk of downtime.
- Priming of the suction hose is not necessary, and a foot valve can be dispensed with.
  - User-friendly and trouble-free operation.
- Reliable mechanical seal ensures protection of the motor.
  - Reliability and long life.
- No maintenance required.
  - Low cost and downtime elimination.
- For use with drivers of other makes or designs for belt drive or drive from a tractor power take-off, etc.
  - Flexibility and customer-oriented.
- Versatile.
  - One pump for a wide range of applications, thus saving costs of additional equipment.

General technical data

Description	PO07	PO23	PO32	PO42
Maximum liquid temperature	60 °C	80 °C		
Maximum ambient temperature	40 °C			
Minimum speed [min^{-1}]	2500			
Maximum speed [min^{-1}]	7500	4500	3700	3000
Sound pressure level [dB (A)]				
Electric motor 2900 min^{-1}	< 70	82	90	90
Combustion engine	-	91	102	105
Vacuummetric suction lift [m]	Up to 5	Up to 8		
Shaft seal				
Floating ring seal	NBR			
Materials				
Housing, housing cover	EN-GJL-200 (GG20)			
Bearing pedestal	EN-GJL-200 (GG20)			
Wear plate	EN-GJL-200 (GG20)			
Screw plug	Stainless steel			
Impeller	EN-GJL-200 (GG20) or G-CuSn			
Connections				
Suction and discharge connections	G 3/4 (DN 20)	G 2 (DN 50)	G 3 (DN 80)	G 4 (DN 100)

Performance range

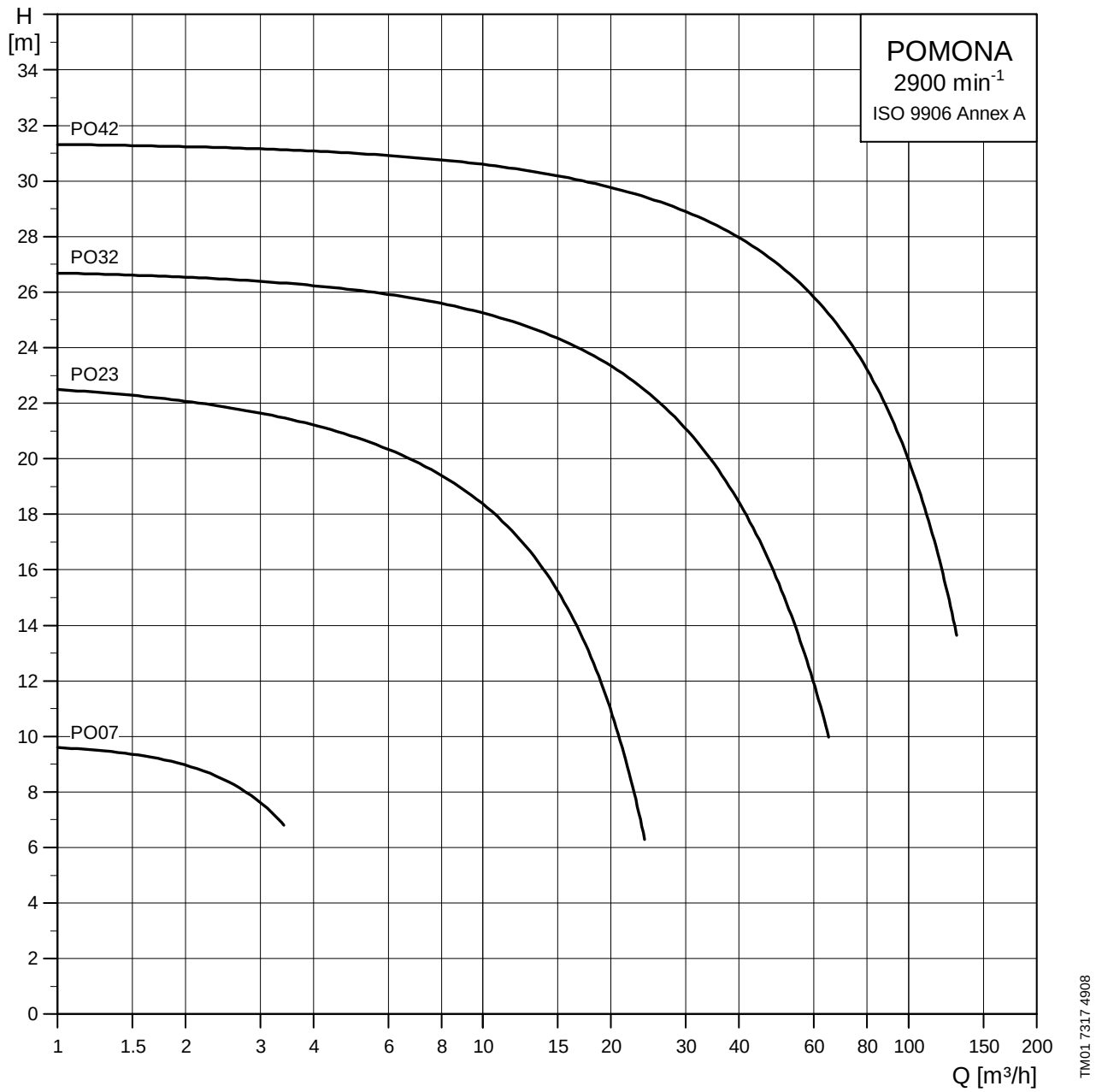


Fig. 4 Performance range at 2900 rpm

Type key

Code	Example	PO	2	3	.10	.BL	.E	.1	.G	.P	.15	.3
PO	POMONA											
	DN connection size [mm]											
0	DN 20 (G 3/4)											
2	DN 50 (G 2)											
3	DN 80 (G 3)											
4	DN 100 (G 4)											
	Version numbero											
	Pump passage											
10	Maximum solids size [mm]											
	Pump type											
BA	Bare shaft pump											
BL	Block version											
CM	Pump with coupling and motor											
	Motor											
0	Without motor											
E	Electric motor, 50 Hz											
F	Electric motor, 60 Hz											
D	4-stroke diesel engine											
P	4-stroke petrol engine											
X	Special motor version											
	Frame											
0	Without frame											
1	Base frame											
2	Carrying frame											
3	Trolley											
	Impeller											
G	Cast iron (GG)											
B	Cast bronze (G-CuSn)											
X	Special version											
	Sealing											
P	NBR											
V	FKM (Viton®)											
X	Special version											
15	**Motor power (P2/100) [W]**											
	Motor											
1	1-phase (220-240)											
3	3-phase (220-240 D/380-415 Y)											
X	Special version											

Nameplate

Pos.	Description
1	Type designation
2	SAP code
CE	CE mark

General data

List of variants

	PO07	PO23	PO32	PO42
Pump type				
Block version	●	●	●	
Bare shaft pump	●	●	●	●
Bare shaft pump with coupling	●	●	●	●
Motor				
Without motor	●	●	●	●
Electric motor (50 Hz) 1-phase	●	●		
Electric motor (50 Hz) 3-phase	●	●	●	●
Electric motor (60 Hz)	●	●	●	
4-stroke diesel engine			●	●
4-stroke petrol engine		●		
Frame				
Without frame	●	●	●	●
Base frame	●	●	●	●
Carrying frame	●	●	●	
Trolley			●	●
Impeller material				
Cast iron (GG20)	●	●	●	●
Cast bronze (G-CuSn)	●	●	●	●
Sealing				
NBR	●	●	●	●
FKM (Viton®)	●	●	●	●

To a great extent the pumps can be adapted to the requirements of the individual customer.

For customised solutions, contact your local Grundfos company.

Ordering a pump

When ordering a POMONA pump, you need to take the following five aspects into consideration:

1. Pump size
2. Custom-built variation (option)
3. Driver design
4. Frame construction
5. Accessories.

Pump

Use section Product range on page 5 and section Type key on page 6 to identify the pump that meets your requirements.

Custom-built variants

The POMONA pump can be customised to meet individual requirements. Many pump features and options are available for customisation, for instance special motor version, type of frame and impeller.

Variants can be seen in section List of variants on page 7. For requirements or designs not included in the list, contact Grundfos.

Accessories

Some installations may requires accessories. See Accessories on page 21 for selection of the correct accessories.

Note: Accessories are not fitted from factory.

Operating conditions

Pressure

Maximum pressure

The maximum pressure (inlet pressure and pump pressure against a closed valve) is 6 bar.

Minimum inlet pressure

The minimum inlet pressure must correspond to the NPSH curve for the pump + a safety margin of minimum 0.5 metres head. NPSH appears from the performance curves starting on page 5.

Density

A high-density liquid only affects the power consumption of a centrifugal pump:

- The head, flow rate and pump efficiency will remain unchanged.
- The power consumption will increase at a ratio corresponding to the increase in density. A liquid with a specific gravity of 1.2 will thus require a 20 % larger power input.

An oversize motor will often be required.

Pumped liquids

The pumped liquid must not attack the pump materials chemically.

pH value: 4-10.

POMONA pumps are wear-resistant and not sensitive to contamination from mud, dirt or sand. Solid matter up to the following particle sizes can be pumped in the liquid without any danger of a blockage:

Type	Maximum particle size [mm]
POMONA PO07	3
POMONA PO23	10
POMONA PO32	20
POMONA PO42	30

Flow rate

Maximum flow rate

The maximum flow rate must not exceed the value stated on the nameplate. If the maximum flow rate is exceeded, cavitation and overload may occur.

Minimum flow rate

The pump must not run against a closed discharge valve, as this will cause an increase in temperature/ formation of steam in the pump. This may cause shaft damage, impeller erosion, short life of bearings, stuffing boxes with packing rings or mechanical seals due to stress or vibration.

The minimum flow rate must be at least 10 % of the maximum flow rate stated on the pump nameplate.

Curve conditions

The guidelines below apply to the curves shown on the following pages:

- Tolerances to ISO 9906, Annex A, if indicated.
- Measurements have been made with airless water at a temperature of 20 °C.
- The curves apply to a kinematic viscosityof υ = 1 mm^2/s (1 cSt).

The QH curves apply to a rated speed of 2900 min^{-1}. All curves are based on actual motor speeds.

Construction

General construction

The rugged end-suction construction is suitable for operation with electric motors and combustion engines. Thanks to the bearing pedestal and bare shaft end, the pump can also be operated by drives already available on the installation site.

The pump housing is made of grey cast iron, and the impeller is made of grey cast iron or special bronze.

The pump unit has a double shaft seal system with grease filling and lubricating nipple. A mechanical shaft seal seals the primary side (water side). A seal ring seals the secondary side (motor side).

Coupling

Flexible coupling versions with bearing pedestal.

Coupling guard

As a protection against contact with the shaft and coupling, a guard made of steel sheet are fastened to the base frame.

Base plate

Torsion-resistant steel plate. Carrying frame and carriage are made of steel tube.

Motor

POMONA 07

- 1 x 230 V motor. 0.25 kW. IP55.
- 3 x 230/400 V motor. 0.25 kW. IP55.

POMONA 23

- 1 x 230 V motor. 1.25 kW. IP55.
- 3 x 230/400 V motor. 1.5 kW. IP55.
- 4-stroke petrol engine. 4.85 kW.

POMONA 32

- 3 x 400 V motor. 4.0 kW. IP55.
- 4-stroke diesel engine with electric start. 4.6 kW.

POMONA 42

- 3 x 400 V motor. 11.0 kW. IP55.
- 4-stroke diesel engine with electric start, including battery and wiring. 13.1 kW.

Other motors/engines are available on request.

POMONA 07

Performance curves

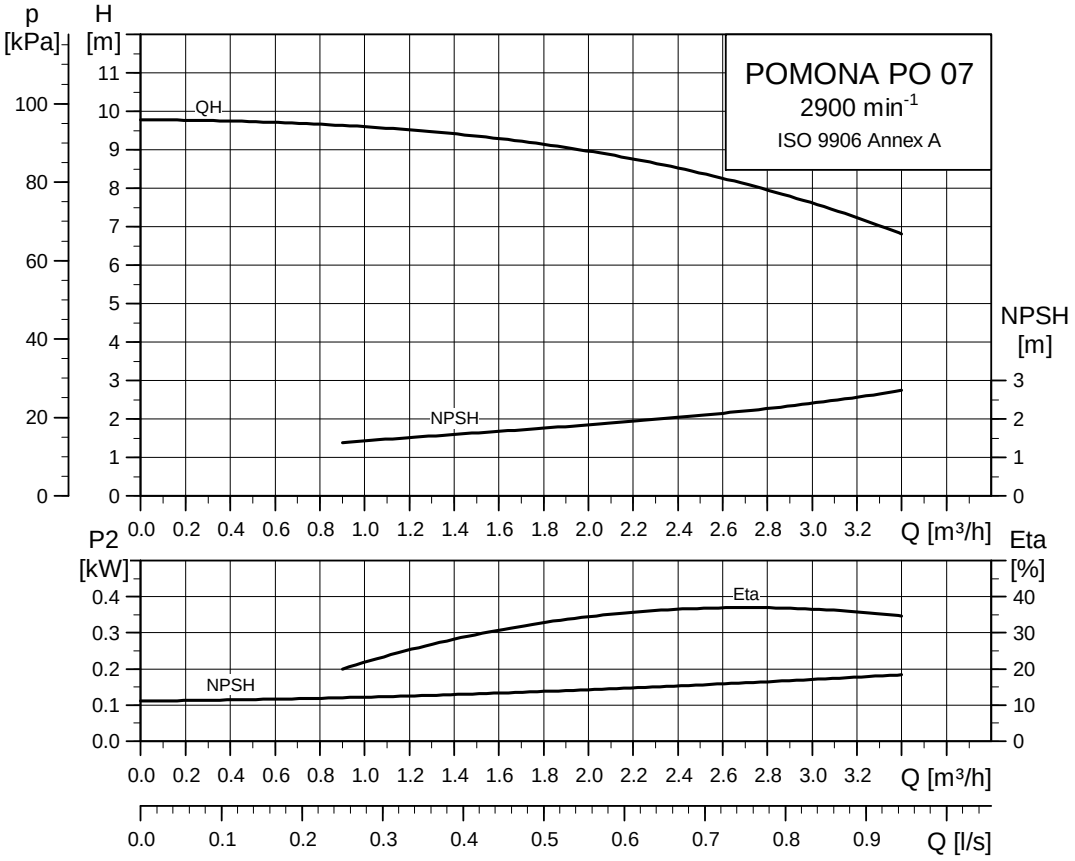


Fig. 5 Performance curves for 1- and 3-phase motors

Technical data

Pump type	Weight [kg]	Connection DN	Pump passage [mm]	Frame	Power P2 [kW]	Speed [min^{-1}]	Impeller material	Sealing material	Voltage [V] (50 Hz)	Product number
PO07.3.BA.0.0.G.P	9.0	20	3	-	0.25 required	2900 required	Cast iron	NBR	-	L6126667
PO07.3.BA.0.0.B.P	9.0	20	3	-	0.25 required	2900 required	Cast bronze	NBR	-	L6Z10002
PO07.3.BL.E.1.G.P.2.5.1	13.5	20	3	Base frame	0.25	2900	Cast iron	NBR	1 x 230	L6Z10010
PO07.3.BL.E.1.B.P.2.5.1	13.5	20	3	Base frame	0.25	2900	Cast bronze	NBR	1 x 230	L6126659
PO07.3.BL.E.1.G.P.2.5.3	13.0	20	3	Base frame	0.25	2900	Cast iron	NBR	3 x 400	L6Z10009
PO07.3.BL.E.1.B.P.2.5.3	13.0	20	3	Base frame	0.25	2900	Cast bronze	NBR	3 x 400	L6126661
PO07.3.BL.E.1.G.V.2.5.3	13.0	20	3	Base frame	0.25	2900	Cast bronze	FKM	3 x 400	L6Z10023

POMONA 23

Performance curves

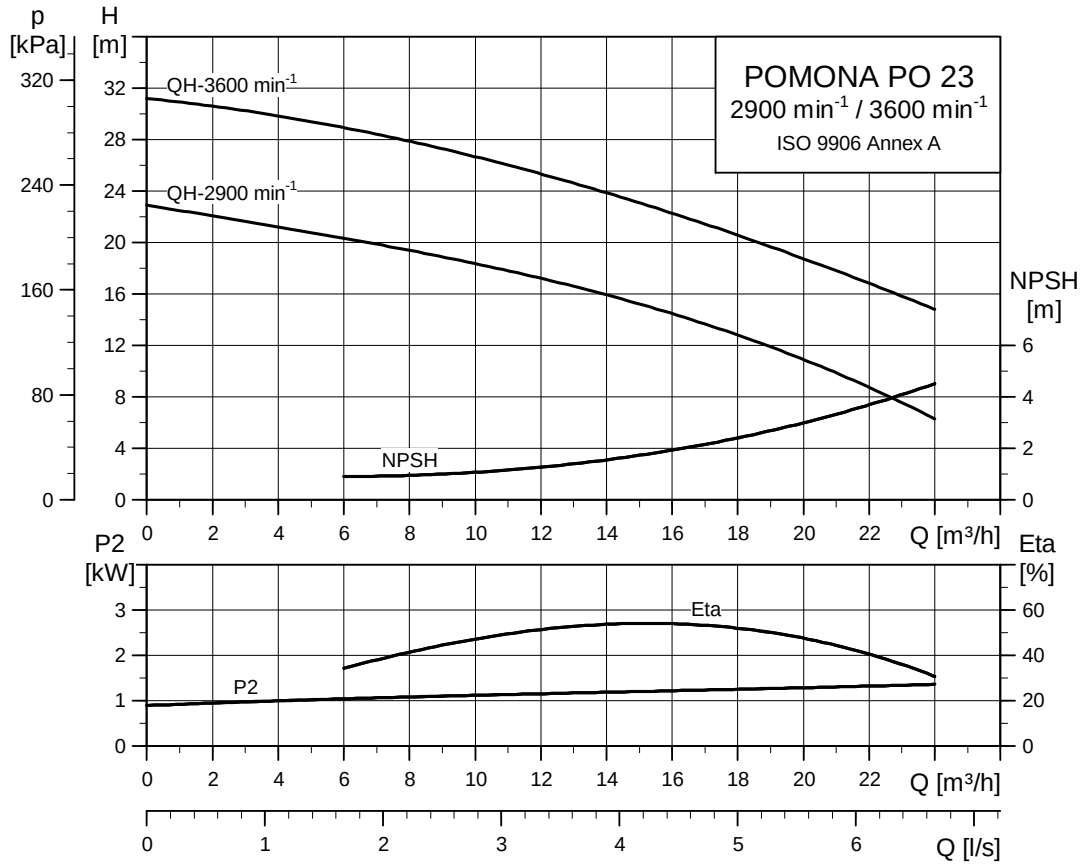


Fig. 6 Performance curves for 1- and 3-phase motors and 4-stroke petrol engine

Technical data

Pump type	Weight [kg]	Connection DN	Pump passage [mm]	Frame	Power P2 [kW]	Speed [min^{-1}]	Impeller material	Sealing material	Voltage [V] (50 Hz)	Product number
PO23.10.BA.0.0.G.P	30.0	50	10	-	1.25 required	2900 required	Cast iron	NBR	-	L6124737
PO23.10.BA.0.0.B.P	30.0	50	10	-	1.25 required	2900 required	Cast bronze	NBR	-	L6124710
PO23.10.BL.E.2.G.P.12.5.1	48.0	50	10	Carrying frame	1.25	2900	Cast iron	NBR	1 x 230	L6124673
PO23.10.BL.E.2.B.P.12.5.1	48.0	50	10	Carrying frame	1.25	2900	Cast bronze	NBR	1 x 230	L6Z20025
PO23.10.BL.E.1.G.P.12.5.1	49.0	50	10	Base frame	1.25	2900	Cast iron	NBR	1 x 230	L6124924
PO23.10.BL.E.1.G.P.15.3	46.0	50	10	Base frame	1.5	2900	Cast iron	NBR	3 x 400	L6124683
PO23.10.BL.E.1.B.P.15.3	46.0	50	10	Base frame	1.5	2900	Cast bronze	NBR	3 x 400	L6Z20012
PO23.10.BL.E.2.G.P.15.3	45.0	50	10	Carrying frame	1.5	2900	Cast iron	NBR	3 x 400	L6124672
PO23.10.BL.E.2.B.P.15.3	45.0	50	10	Carrying frame	1.5	2900	Cast bronze	NBR	3 x 400	L6124674
PO23.10.BL.P.2.G.P.48.5	48.0	50	10	Carrying frame	4.85	3600	Cast iron	NBR	-	L6124435
PO23.10.BL.P.2.B.P.48.5	48.0	50	10	Carrying frame	4.85	3600	Cast bronze	NBR	-	L6Z20029

POMONA 32

Performance curves

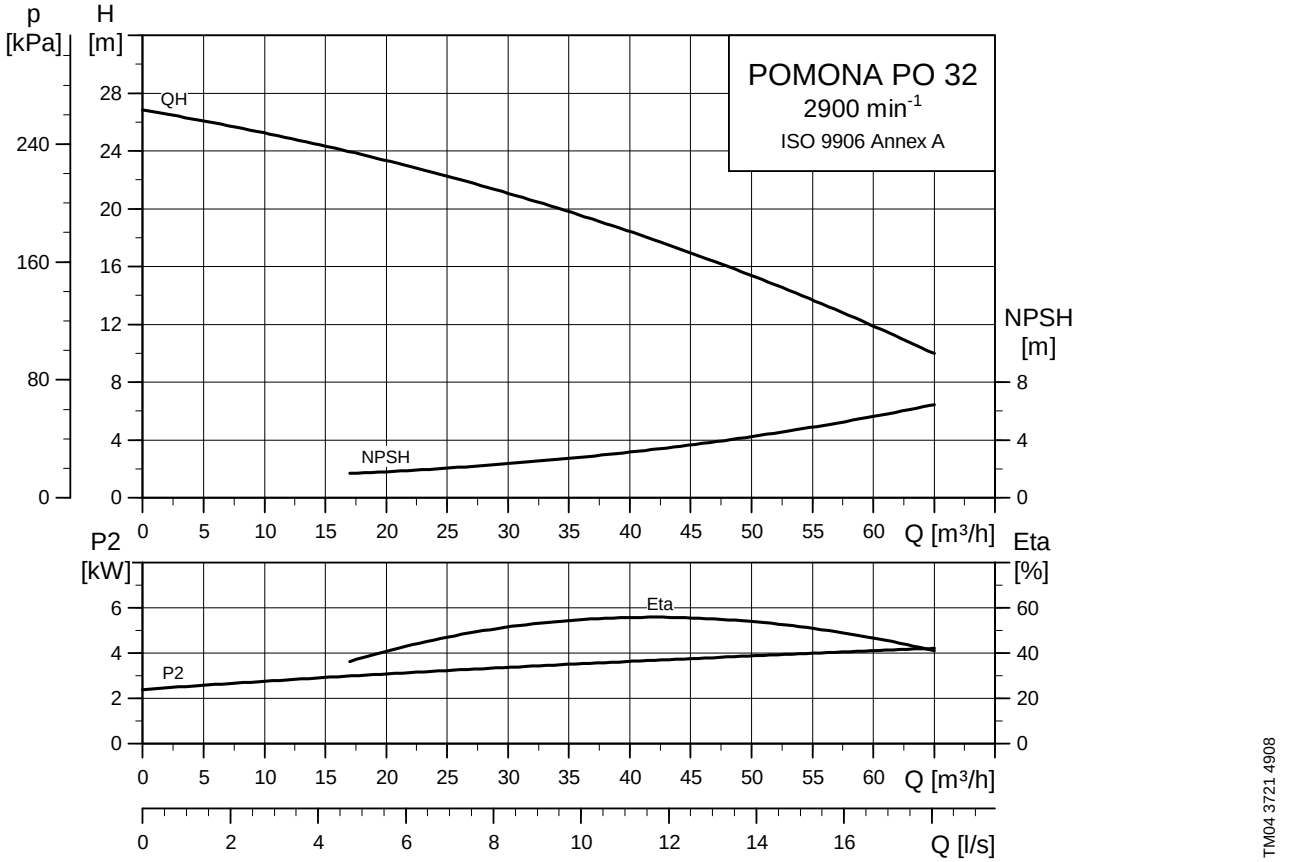


Fig. 7 Performance curves for 3-phase motors and diesel engine

Technical data

Pump type	Weight [kg]	Connection DN	Pump passage [mm]	Frame	Power P2 [kW]	Speed [min^{-1}]	Impeller material	Sealing material	Voltage [V] (50 Hz)	Product number
PO32.20.BA.0.0.G.P	40.0	80	20	-	4.0 required	2900 required	Cast iron	NBR	-	L6124290
PO32.20.BL.E.1.G.P.40.3	80.0	80	20	Base frame	4	2900	Cast iron	NBR	3 x 400	L6125628
PO32.20.BL.E.1.B.P.40.3	80.0	80	20	Base frame	4	2900	Cast bronze	NBR	3 x 400	L6125629
PO32.20.BL.E.3.G.P.40.3	93.0	80	20	On trolley	4	2900	Cast iron	NBR	3 x 400	L6123986
PO32.20.BL.D.2.G.P.46	90.5	80	20	Carrying frame	4.6	2900	Cast iron	NBR	-	L6125156
PO32.20.BL.D.3.G.P.46	103.0	80	20	On trolley	4.6	2900	Cast iron	NBR	-	L6125423

POMONA 42

Performance curves

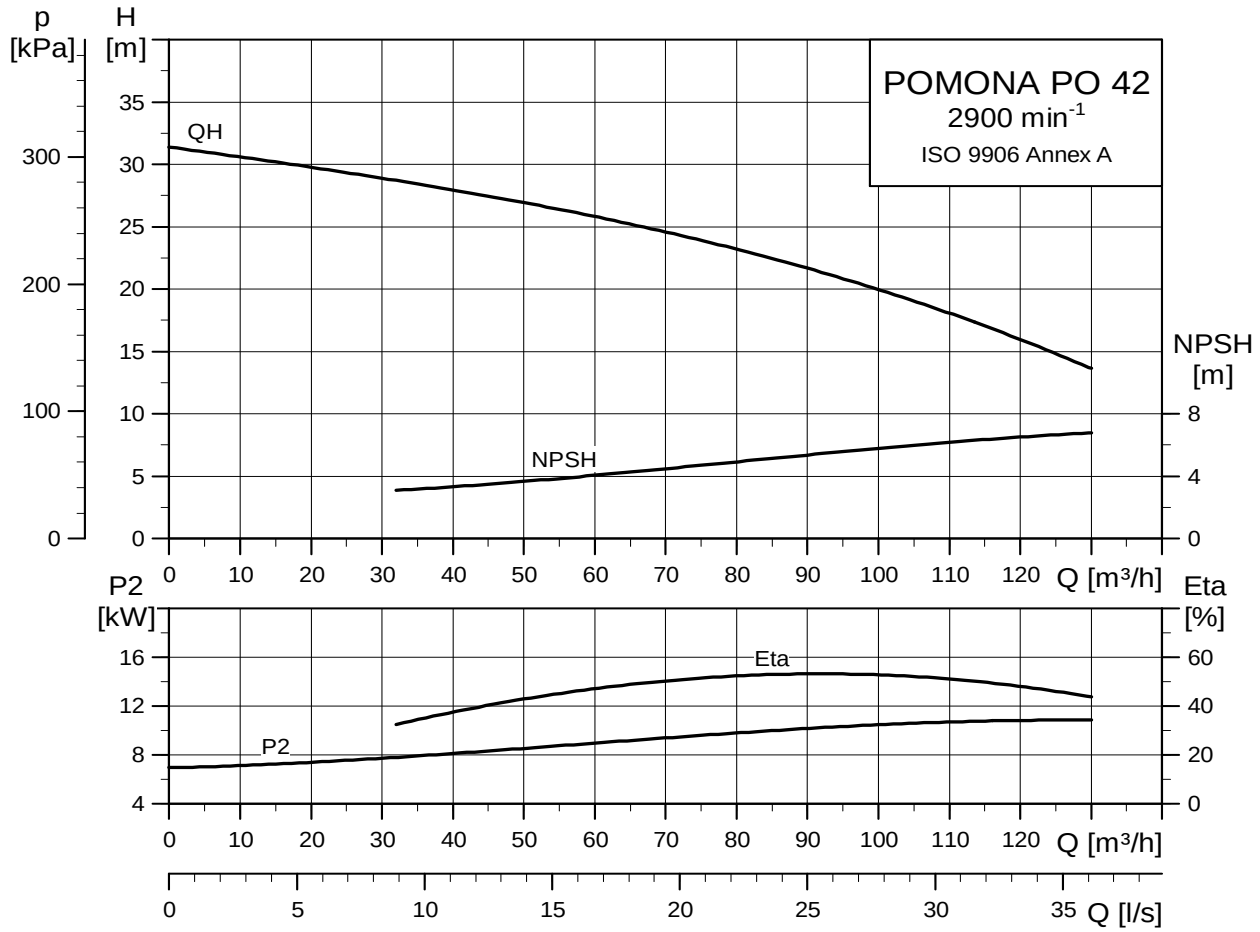
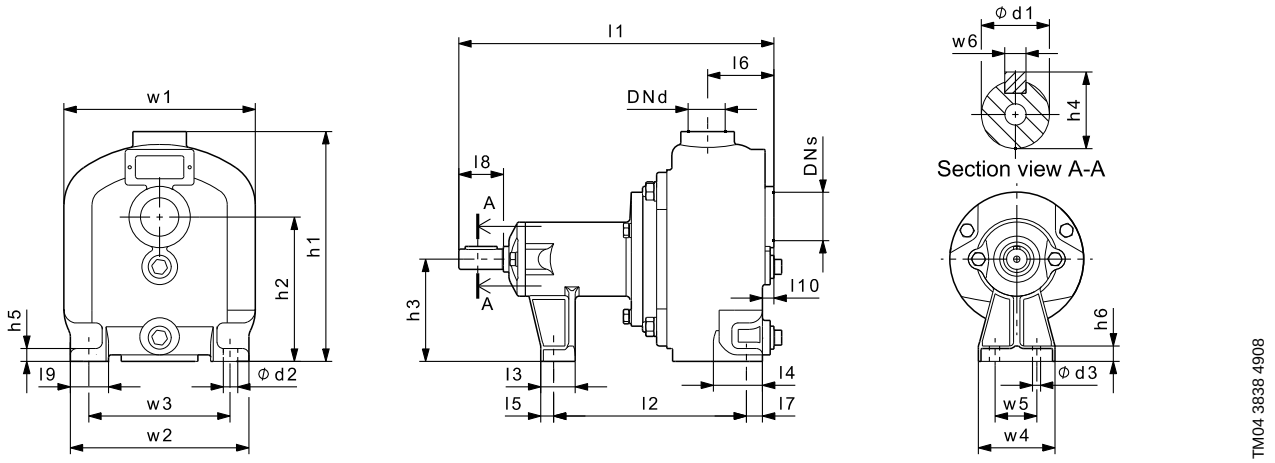


Fig. 8 Performance curves for 3-phase motors and diesel engine

Technical data

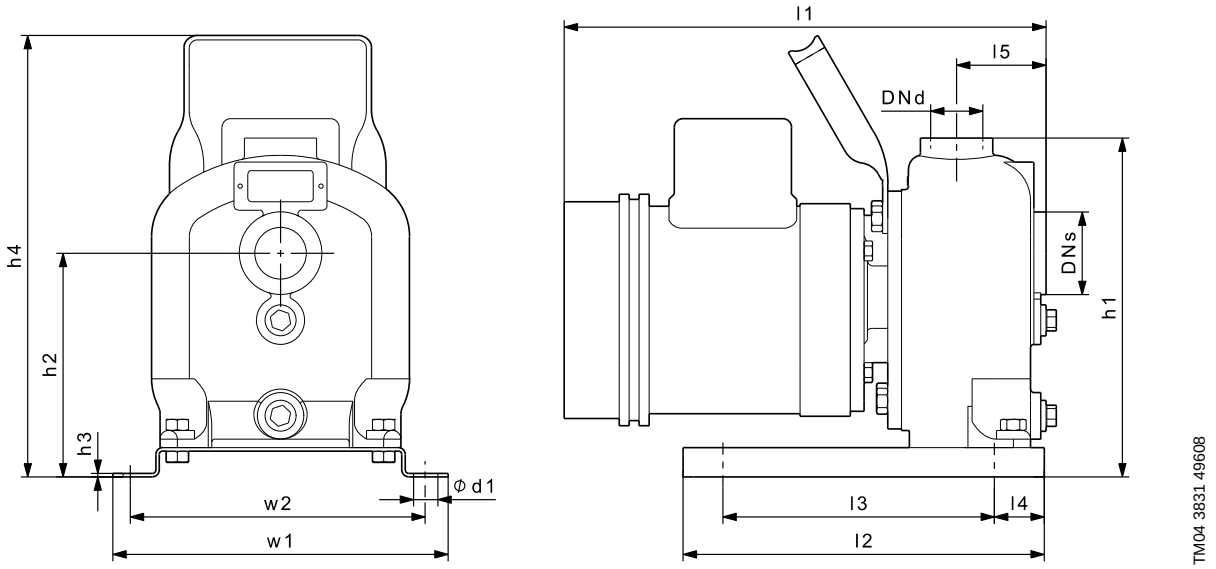
Pump type	Weight [kg]	Connection DN	Pump passage [mm]	Frame	Power P2 [kW]	Speed [min^{-1}]	Impeller material	Sealing material	Voltage [V] (50 Hz)	Product number
PO42.30.BA.0.0.G.P	71.0	100	30	-	11.0 required	2900 required	Cast iron	NBR	-	L6123439
PO42.30.BA.0.0.B.P	71.0	100	30		11.0 required	2900 required	Cast bronze	NBR		L6123412
PO42.30.CM.E.1.G.P.110.3	220.5	100	30	Base frame	11	2900	Cast iron	NBR	3 x 400	L6Z40008
PO42.30.CM.E.1.B.P.110.3	220.5	100	30	Base frame	11	2900	Cast bronze	NBR		L6Z40007
PO42.30.CM.D.1.G.P.131	237.0	100	30	Base frame	13.1	2900	Cast iron	NBR	-	L6Z40004
PO42.30.CM.D.3.G.P.131	280.0	100	30	On trolley	13.1	2900	Cast iron	NBR	-	L6Z40022

PO07 - PO42 bare shaft pump



Type	DNs	DNd	Dimensions [mm]																						
			l1	l2	l3	l4	l5	l6	l7	l8	l9	l10	h1	h2	h3	h4	h5	h6	w1	w2	w3	w4	w5	w6	Ø d1	Ø d2	Ø d3
PO07.3.BA	3/4"	3/4''	247	154	27	38	10	52	10	35	30	9	180	113	$80_{-0.2}$	$18.0^{+0.1}$	10	12	150	140	120	60	36	5	16k6	9.5	9.5
PO23.10.BA	2"	2''	417	293	40	93	17	112	13	40	40	19	270	167	115	$20.6^{+0.1}$	11	11	230	185	150	185	150	6	18k5	12	12
PO32.20.BA	3"	3''	500	348	38	106	14	129	20	60	48	23	333	210	$142_{-0.2}$	$24.5^{+0.1}$	14	12	275	220	180	220	180	6	22k5	13.5	13.5
PO42.30.BA	4"	4''	577	411	50	124	19	151	27	60	70	27	397	230	$170_{-0.2}$	$24.5^{+0.1}$	15	14	360	310	254	310	254	6	22k5	18.0	18.0

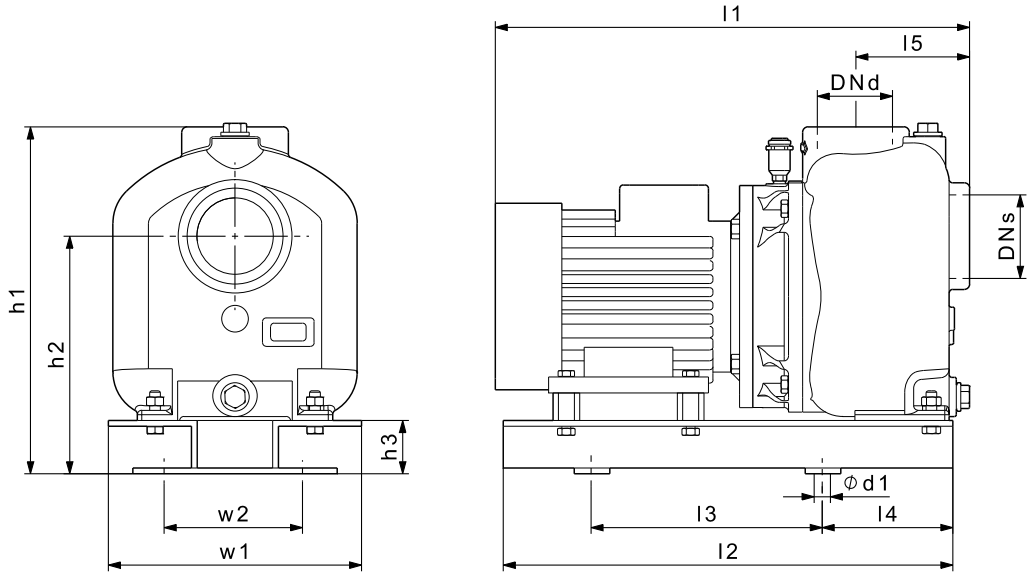
PO07 block version on base frame



Type	DNs	DNd	Dimensions [mm]											
			l1	l2	l3	l4	l5	h1	h2	h3	h4	w1	w2	Ø d1
PO07.3.BLE.1	3/4"	3/4"	280	210	150	30	52	197	130	2	257	195	175	12

Dimensions

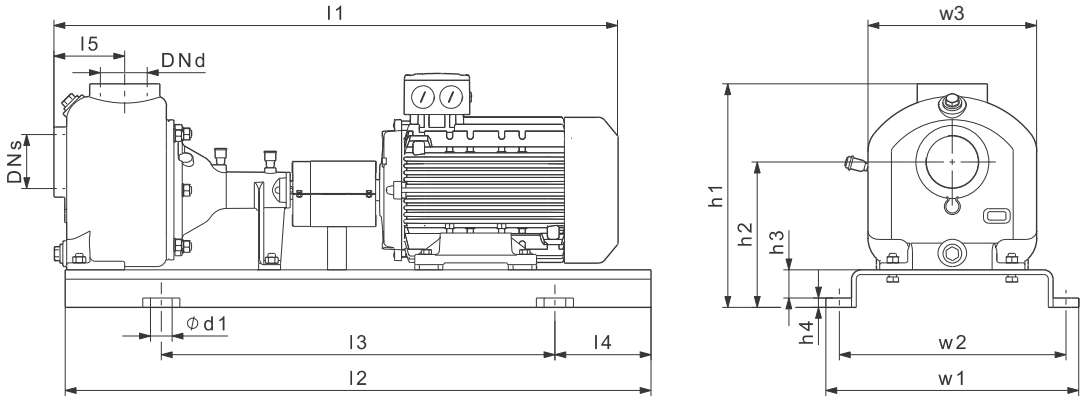
PO23 - PO32 block version on base frame



TM04 3830 4908

Type	DNs	DNd	Dimensions [mm]										
			l1	l2	l3	l4	l5	h1	h2	h3	w1	w2	Ø d1
PO23.10.BL.E.1	2"	2"	475	435	260	110	112	328	225	58	230	190	14
PO32.20.BL.E.1	3"	3"	565	506	260	140	130	391	286	58	285	190	19

PO07 - PO42 pump with coupling and motor

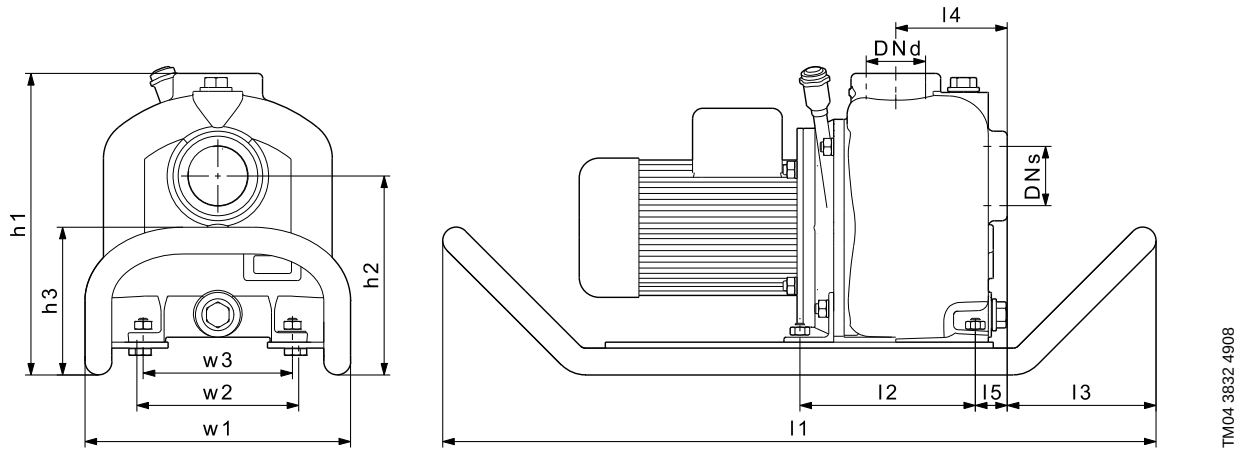


TM04 3839 2710

Type	DNs	DNd	Dimensions [mm]												
			l1	l2	l3	l4	h1	h2	h3	h4	l5	w1	w2	w3	Ø d1
PO07.3.CM.E.1	3/4"	3/4"	485	465	300	82	245	173	58	20	52	200	180	150	10
PO23.10.CM.E.1	2"	2"	740	720	480	115	335	232	45	20	112	330	292	230	19
PO32.20.CM.E.1	3"	3"	974	1000	660	170	413	222	60	20	128	450	402	275	24
PO42.30.CM.E.1	4"	4"	1203	1250	840	205	477	310	60	20	151	540	484	360	24

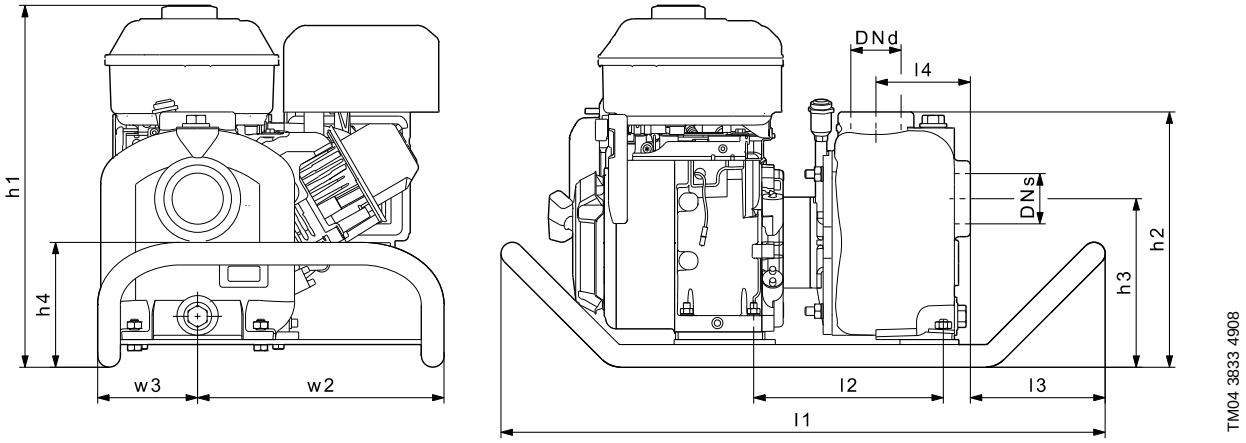
Dimensions

PO23 block version on carrying frame



Type	DNs	DNd	Dimensions [mm]										
			l1	l2	l3	l4	l5	h1	h2	h3	w1	w2	w3
PO23.10.BL.E.2	2”	2”	717	176	149	112	32	303	200	148	267	163	150

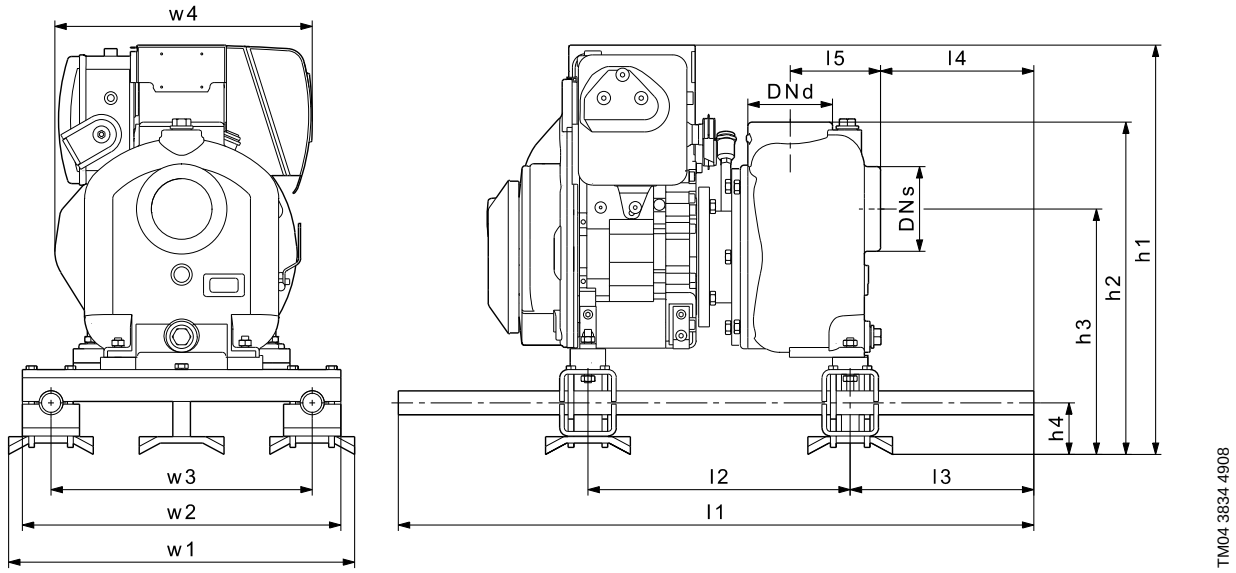
PO23 block version on carrying frame with petrol engine



Type	DNs	DNd	Dimensions [mm]										
			l1	l2	l3	l4	l5	h1	h2	h3	h4	w1	w2
PO23.10.BL.P.2	2”	2”	717	225	160	112	32	429	303	200	148	292	119

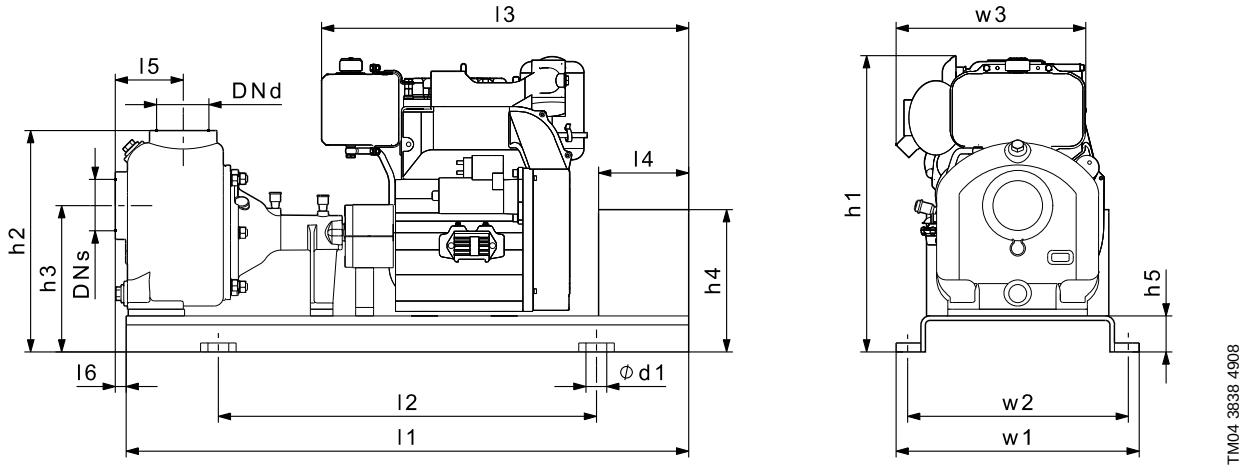
Dimensions

PO32 block version on carrying frame with diesel engine



Type	DNs	DNd	Dimensions [mm]												
			l1	l2	l3	l4	l5	h1	h2	h3	h4	w1	w2	w3	w4
PO32.20.BL.D.2	3”	3”	900	372	260	217	128	580	471	348	73	490	451	370	365

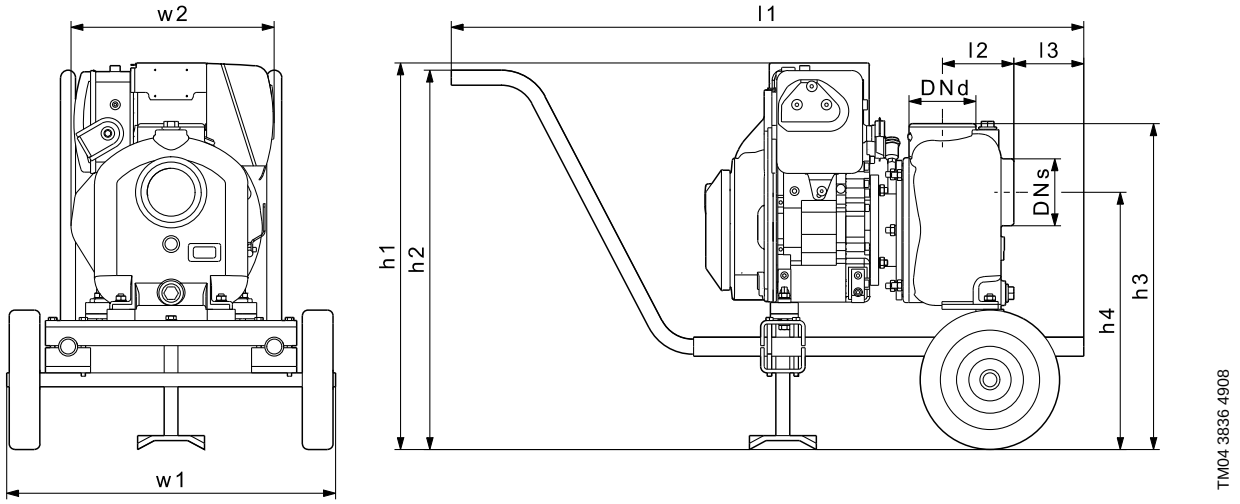
PO42 pump with coupling and diesel engine



Type	DNs	DNd	Dimensions [mm]														
			l1	l2	l3	l4	l5	l6	h1	h2	h3	h4	h5	w1	w2	w3	Ø d1
PO42.30.CM.D.1	4”	4”	1250	840	816	200	151	24	658	492	325	316	80	540	490	421	24

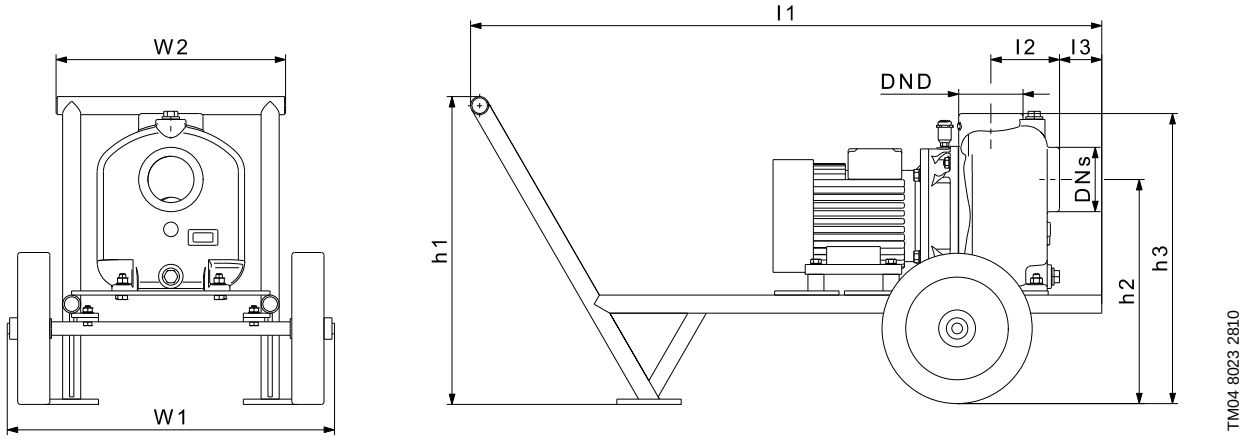
Dimensions

PO32 pump on trolley with diesel engine



Type	DNs	DNd	Dimensions [mm]								
			l1	l2	l3	h1	h2	h3	h4	w1	w2
PO32.20.BL.D.3	3”	3”	1135	128	126	694	680	585	462	590	365

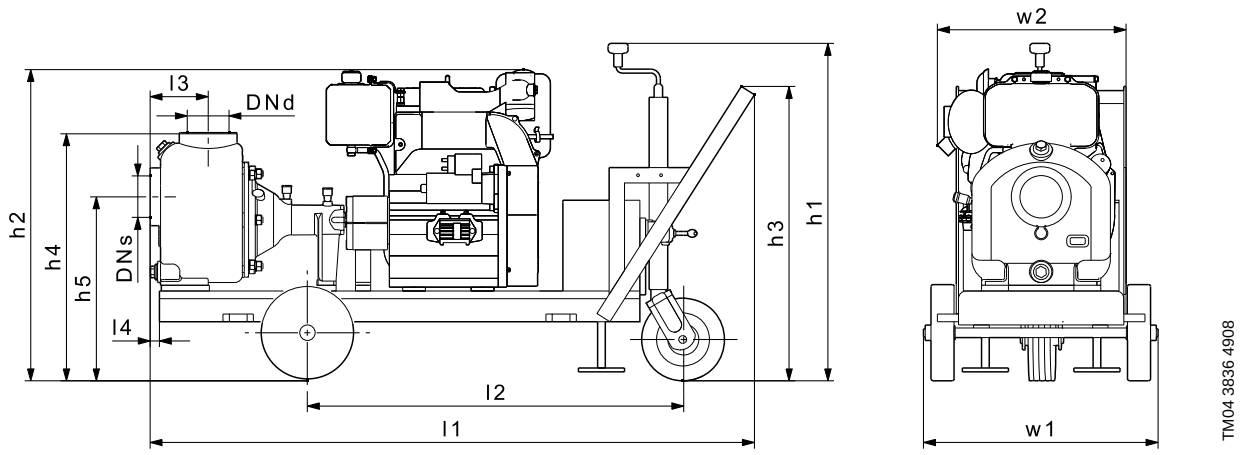
PO32 pump on trolley with electric motor



Type	DNs	DNd	Dimensions [mm]							
			l1	l2	l3	h1	h2	h3	w1	w2
PO32.20.BL.E.3	3”	3”	1177	128	79	574	419	542	610	428

Dimensions

PO42 pump on trolley with diesel engine



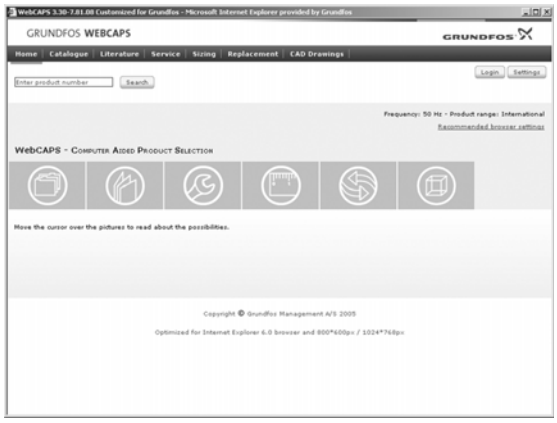
Type	DNs	DNd	Dimensions [mm]										
			l1	l2	l3	l4	h1	h2	h3	h4	h5	w1	w2
PO42.30.CM.D.3	4”	4”	1572	979	151	24	877	809	766	643	476	610	491

Accessories

Version	Designation	Product number
PO07	Base frame for PO07.3.CM	S6213560
	Coupling guard	S3208536
	Coupling (dm = 11; dp = 16)	S9160962
	Coupling (dm = 14; dp = 16)	S9160989
	Motor 400 V, 0.25 kW, foot-mounted (dm = 11)	S9201286
PO23	Base frame for PO23.10.CM	S3213270
	Coupling guard	S3208538
	Coupling (dm = 11; dp = 16)	S7161020
	Hexagon nipple, R 2 - R 2 AG	96001993
	STORZ coupling connection, Rp 2	96001982
	STORZ coupling connection, R 2	S6127116
	Flange connection set, PN 10, DN 50 - Rp 2	549801
	90 ° elbow, Rp 2 - R 2	S6512907
	Non-return ball valve for discharge side, threaded connection Rp 2	96002002
	Pressure hose, 10 m, with STORZ coupling, C-2''	96001987
	Pressure hose, 20 m, with STORZ coupling, C-2''	96005257
	Discharge connection complete for 2” hose	S6127248
	Spiral suction hose 2”, 4 m, with screwed connection, foot valve and strainer	S6127302
	Spiral suction hose 2”, 8 m, with screwed connection, foot valve and strainer	S6127329
	Motor 400 V, 1.5 kW, foot-mounted (dm = 11)	87103354
PO32	Base frame for PO32.20.CM	S3213272
	Coupling guard	S3208540
	Coupling (dm = 28; dp = 22)	S7161152
	Coupling (dm = 38; dp = 22)	S7161209
	Hexagon nipple R 3 - R 3, steel zinc-plated	91713477
	STORZ coupling connection, Rp 3	96001984
	STORZ coupling connection, R 3	S6122572
	Flange connection set, PN 10, DN 80 - Rp 3	569802
	90 ° elbow, Rp 3 - R 3 for PO32.20.BL.E	S6122564
	90 ° elbow, Rp 3 - R 3 for PO32.20.BL.D	S6122602
	Non-return ball valve for discharge side, flange connection DN 80	96002009
	Pressure hose, 10 m, with STORZ coupling, C-3''	96001989
	Pressure hose, 20 m, with STORZ coupling, C-3''	96005259
	Discharge connection complete for pump with 3-phase motor, for 3” hose	S6126896
	Discharge connection complete for pump with diesel engine, for 3” hose	S6126934
	Spiral suction hose 3”, 4 m, with foot valve and strainer	S6126993
	Spiral suction hose 3”, 8 m, with foot valve and strainer	S6127019
PO42	Base frame for PO42.30.CM	S3213275
	Coupling guard	S3208542
	Coupling (dm = 42; dp = 22)	S7161268
	Hexagon nipple R4''-R4'' AG	96006566
	STORZ coupling connection, Rp 4	96005252
	STORZ coupling connection, R 4	S6124796
	Flange connection set, PN 10, DN 100 - Rp 4	579801
	90 ° elbow, Rp 4 - R 4	S6124788
	Non-return ball valve for discharge side, flange connection DN 100	96002085
	Pressure hose, 10 m, with STORZ coupling, C-4''	96005255
	Pressure hose, 20 m, with STORZ coupling, C-4''	96005260
	Discharge connection complete for 4” hose	S6127035
	Spiral suction hose 4”, 8 m, with foot valve and strainer	S6127078
	Motor 400 V, 11 kW, foot-mounted (dm = 42)	85Z89666

Further product documentation

WebCAPS



WebCAPS is a **Web**-based **C**omputer **A**ided **P**roduct **S**election program available on www.grundfos.com.

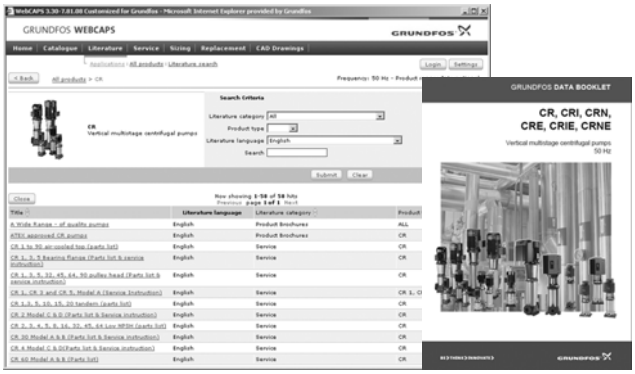
WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

- Catalogue
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.

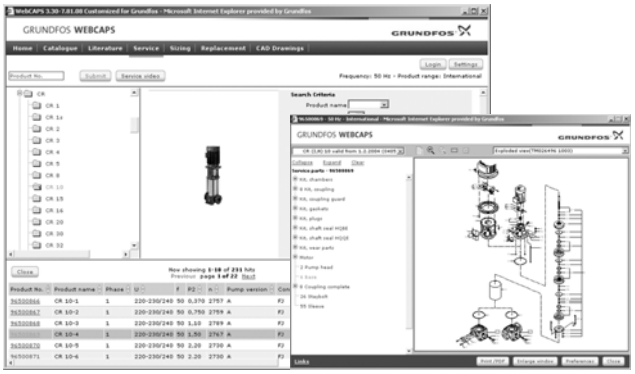
Catalogue

This section is based on fields of application and pump types, and contains
- technical data
- curves (QH, Eta, P1, P2, etc.) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

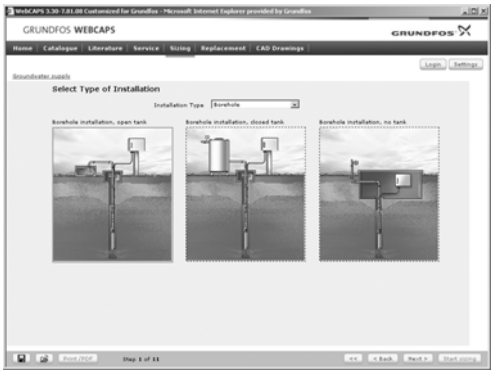
In this section you can access all the latest documents of a given pump, such as
- data booklets
- installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures.



Service

This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.

Further product documentation



Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to

- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.

Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump.
The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.

CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:
- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:
- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS

Fig. 9 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

Subject to alterations.

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