

**60 Hz**

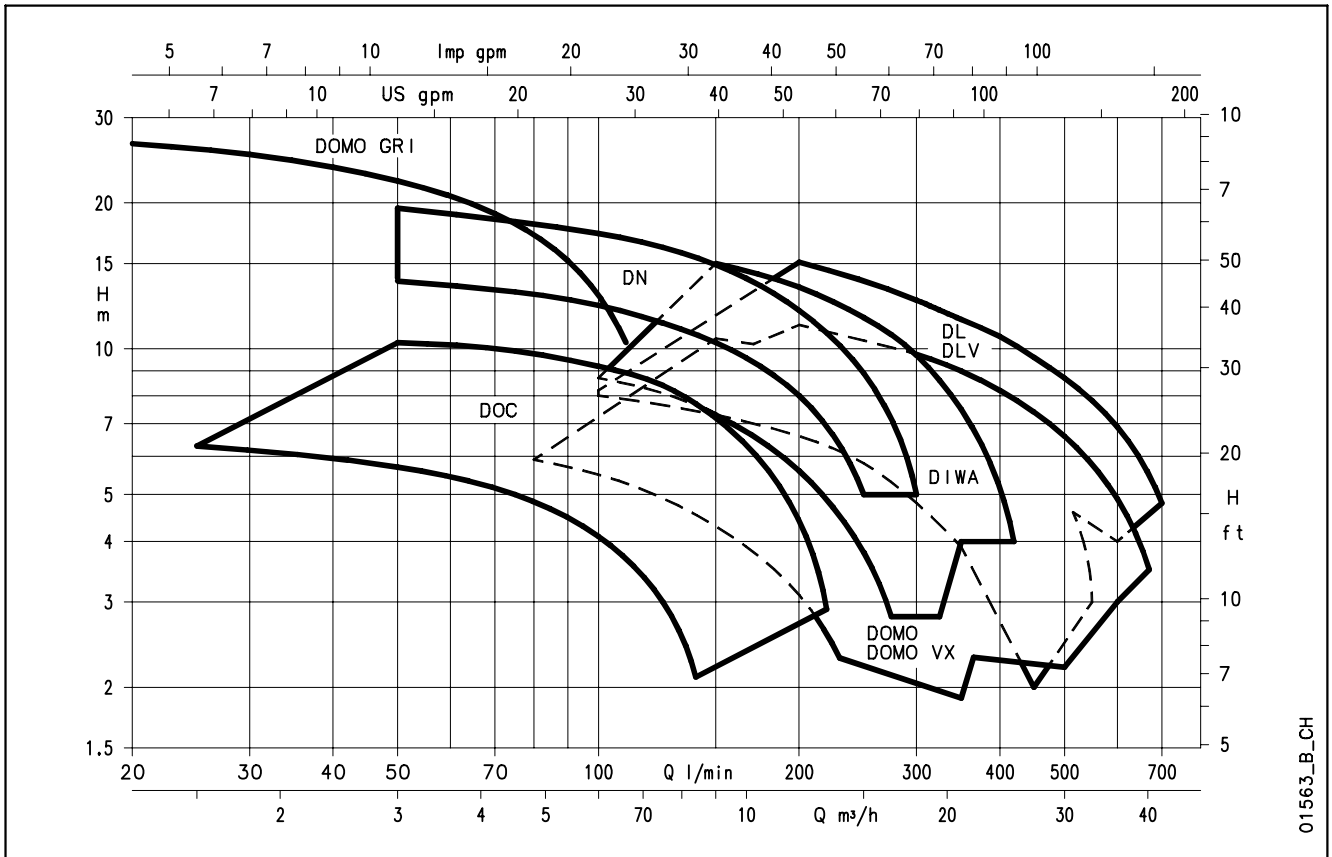


# DOC - DIWA - DOMO DOMO GRI - DN - DL Series

DRAINAGE AND SEWAGE  
ELECTRIC PUMPS

Cod. 191014421 Rev.B Ed.08/2012

 **LOWARA**  
a xylem brand

**DOC - DIWA - DOMO - DOMO GRI - DN - DL SERIES  
HYDRAULIC PERFORMANCE RANGE AT 60 Hz**


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## Submersible Electric Pumps for drainage of clean and dirty water

### DOC Series 60 Hz



DOC pumps are versatile, corrosion-resistant and compact. Three basic versions are available with 0,25 to 0,55 kW power.

A DOC 76VX version with Vortex impeller is available.

- The **DOC76** pump features a flow rate up to **220 l/min**, head up to **11 m**, and passes **suspended solids up to 10 mm** in diameter.
- The **DOC7VX** pump features a flow rate up to **180 l/min**, head up to **7 m**, and can handle liquids with **suspended solids up to 20 mm** in diameter.
- **Versions:**
  - Single-phase: 220-230V, 60Hz, 2 poles.
  - Three-phase: 220-230V, 60Hz, 2 poles. 380-400V, 60Hz, 2 poles.
- **The single-phase versions** feature:
  - **pre-assembled float switch** for automatic pump operation.
  - **built-in capacitor.**
  - **thermal overload protection** to stop pump supply in case of overheating.
- SG versions (single-phase without float switch), GT versions (single-phase with pre-assembled tube float switch), 50 Hz single-phase and three-phase versions, versions with various power cord lengths and various plugs are available on request.
- A "**shallow-suction device**", that can be mounted on both the DOC36 and DOC76 models, is available on request. It ensures the complete drainage of flooded floors (down to 3 mm from floor).

### APPLICATIONS

- Emptying of residential sump pits, rainwater tanks or laundry drainage.
- Garden and lawn irrigation, with suction from rainwater tanks.
- Emergency draining of flooded basements and garages.
- Transfer of water from tanks and basins.

### SPECIFICATIONS

- **Maximum liquid temperature: 40°C.**
- **Dry motor** cooled by the pumped liquid.
- **Power cord:**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 130°C (B).**
- **IPX8 protection.**
- **Maximum immersion depth: 5 m.**
- The **DOC36** pump features a flow rate up to **140 l/min**, head up to **7 m**, and passes **suspended solids up to 10 mm** in diameter. Only available in single-phase version.

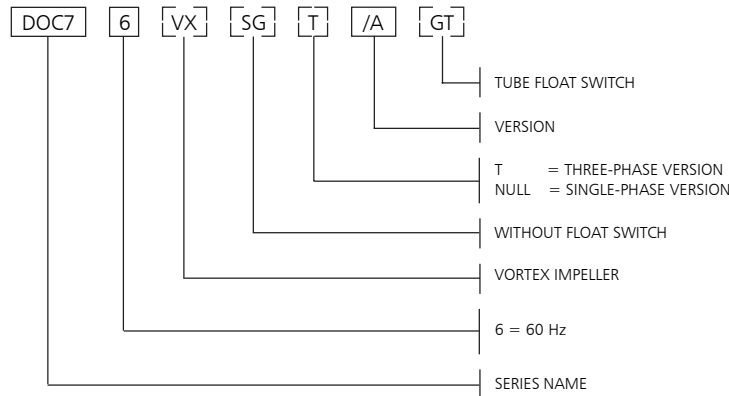
### SOS KIT

The **SOS Kit** is available, for quick emergency dewatering of flooded basements, garages and residential buildings.

The kit is composed of:

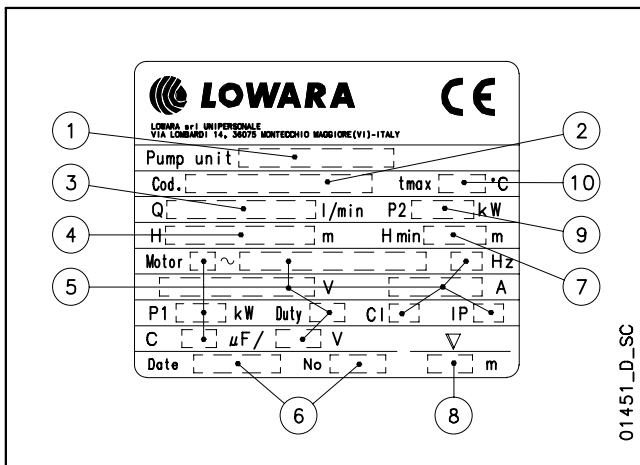
- a single-phase **DOC36** electric pump, equipped with float switch, 10 meters power cord with plug and a quick coupling already mounted for rapid hose connection.
- 6 meters long **flexible hose**, complete with quick coupling already mounted for rapid pump connection.
- **plastic box** that can be used to store the kit on a shelf when not in use, or as a strainer during operation.

## DOC SERIES IDENTIFICATION CODE



EXAMPLE : DOC 76VX/A  
 DOC 76 Series Electric pump, 60 Hz version,  
 Vortex impeller, single-phase, /A version.

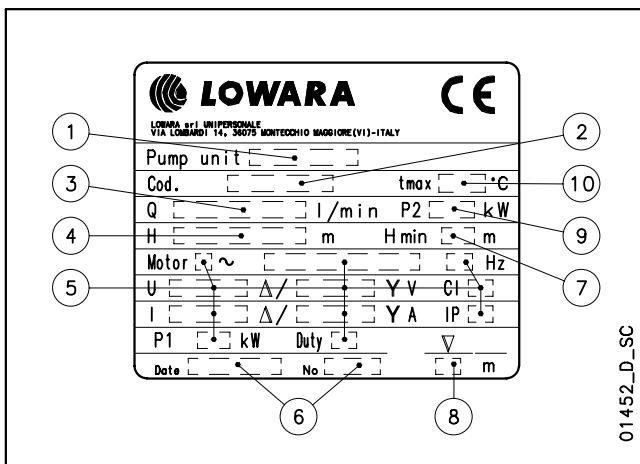
## SINGLE-PHASE RATING PLATE



## LEGEND

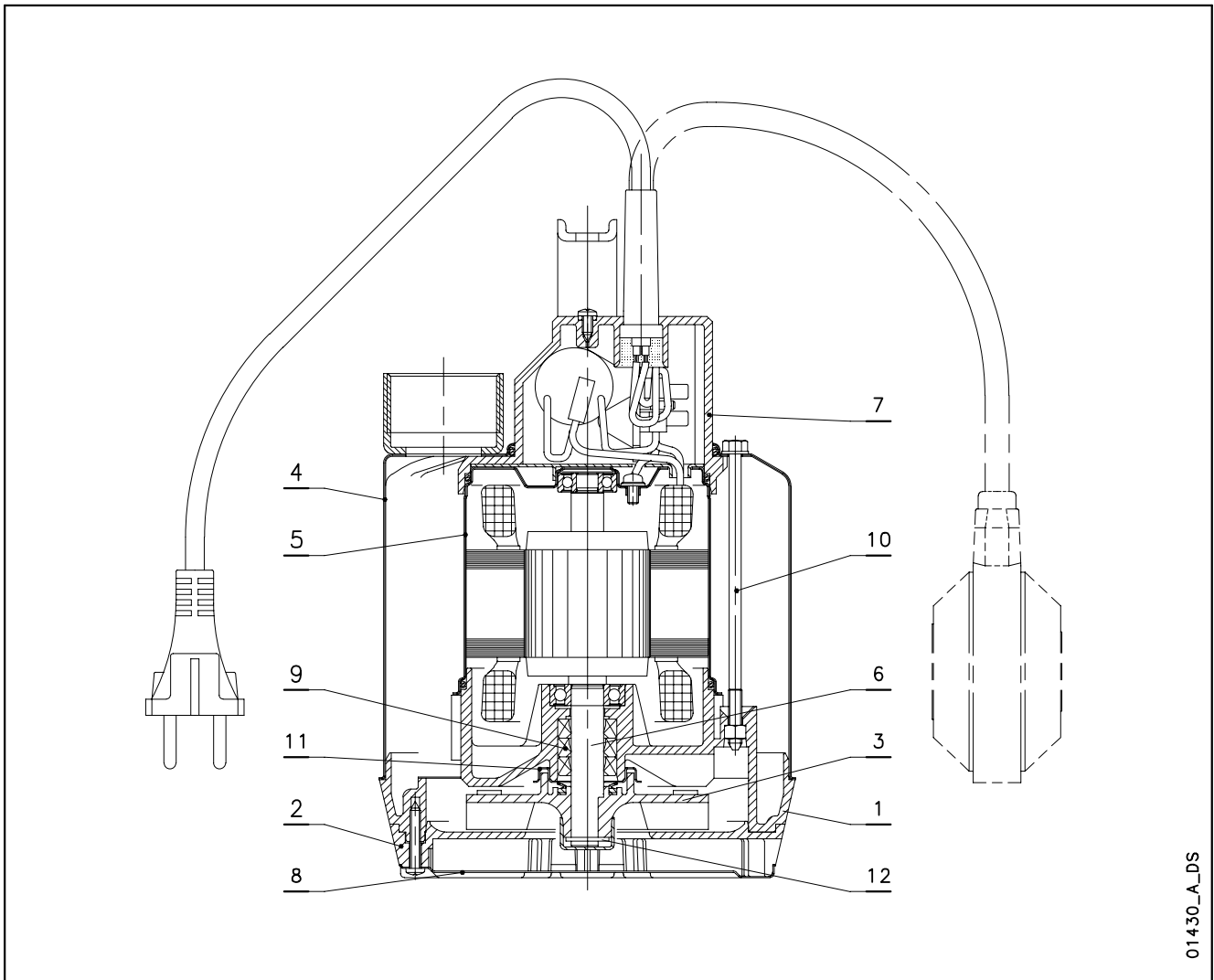
- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacture and serial number
- 7 - Minimum head
- 8 - Maximum immersion depth
- 9 - Rated output
- 10 - Maximum liquid temperature

## THREE-PHASE RATING PLATE



## DOC SERIES

### LIST OF MODELS AND TABLE OF MATERIALS

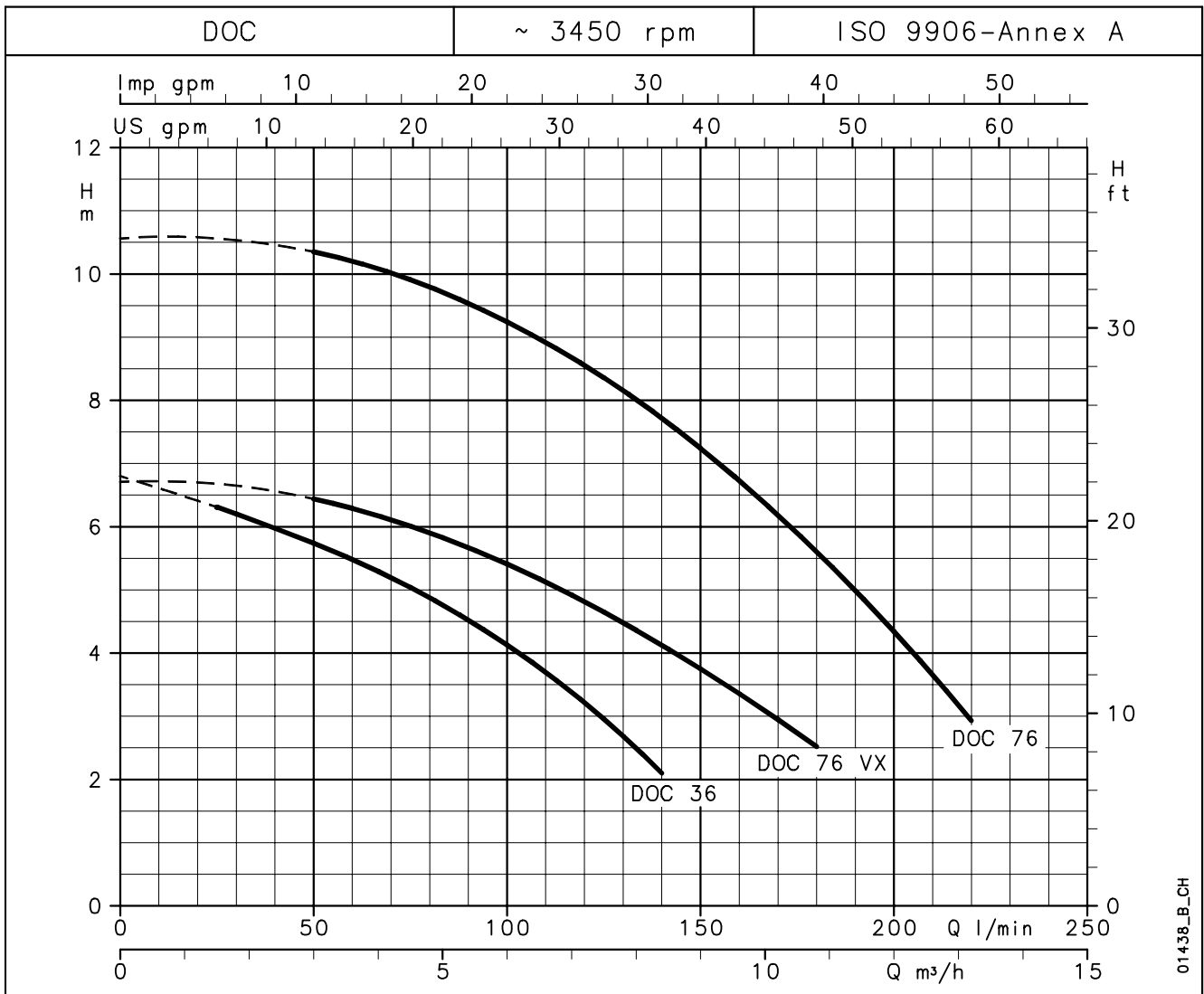


01430\_A\_DS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	PPO resin + 20 % GF		
2	Suction strainer	PPO resin + 20 % GF		
3	Impeller DOC3	PPO resin + 20 % GF		
	Impeller DOC7 - DOC7VX	PA 66 + 30 % GF		
4	External case	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Internal motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Shaft	Stainless steel	EN 10088-1-X12CrS13 (1.4005)	AISI 416
7	Head	PPO resin + 20 % GF		
8	Lower cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
9	Elastomers	NBR		
10	Tie-rod and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
11	Double wear ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
12	Impeller fixing ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

doc-en\_b\_tm

## DOC SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY									
			l/min	0	25	50	75	100	125	140	180	220
			m <sup>3</sup> /h	0	1,5	3	4,5	6	7,5	8,4	10,8	13,2
		H = TOTAL HEAD METERS COLUMN OF WATER										
	kW	HP										
DOC36	0,25	0,33	6,8	6,3	5,7	5	4,1	3,0	2,1	-	-	
DOC76(T)	0,55	0,75	10,6	-	10,3	9,9	9,2	8,4	7,7	5,6	2,9	
DOC76VX(T)	0,55	0,75	6,7	-	6,4	6	5,4	4,6	4,1	2,5	-	

These performances are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$

doc-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

PUMP TYPE	SINGLE-PHASE		
	INPUT POWER*	INPUT CURRENT*	CAPACITOR
	kW	220-230 V A	$\mu\text{F} / 450 \text{ V}$
DOC36	0,32	1,47	6,3
DOC76	0,76	3,45	16
DOC76VX	0,73	3,33	16

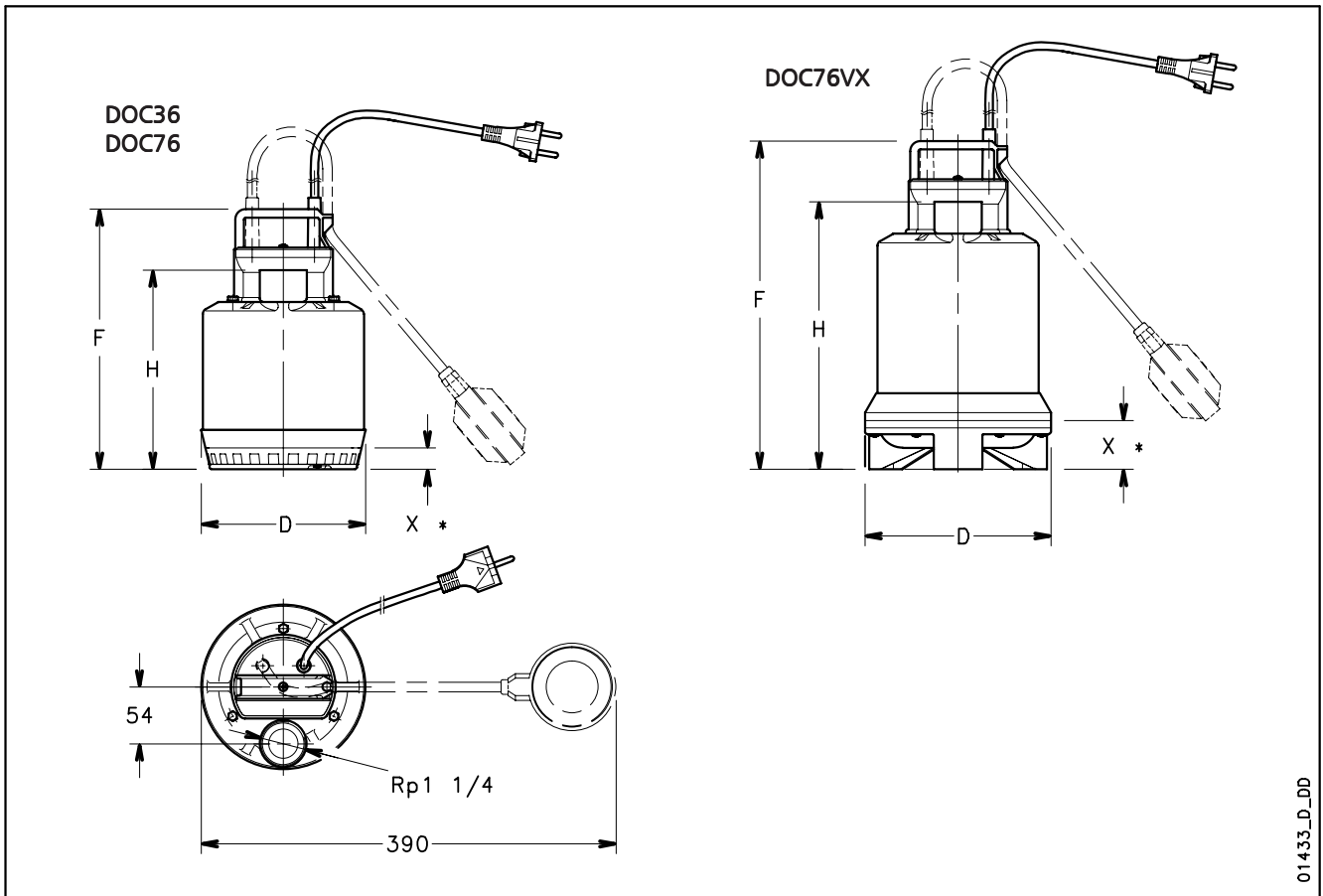
PUMP TYPE	THREE-PHASE		
	INPUT POWER*	INPUT CURRENT*	INPUT CURRENT*
	kW	220-230 V A (1)	380-400 V A
-	-	-	-
DOC 76T	0,69	2,2	1,27
DOC 76VXT	0,66	2,15	1,24

\*Maximum value in specified range  
(1) Available on request

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**DOC SERIES  
DIMENSIONS AND WEIGHTS AT 60 Hz**

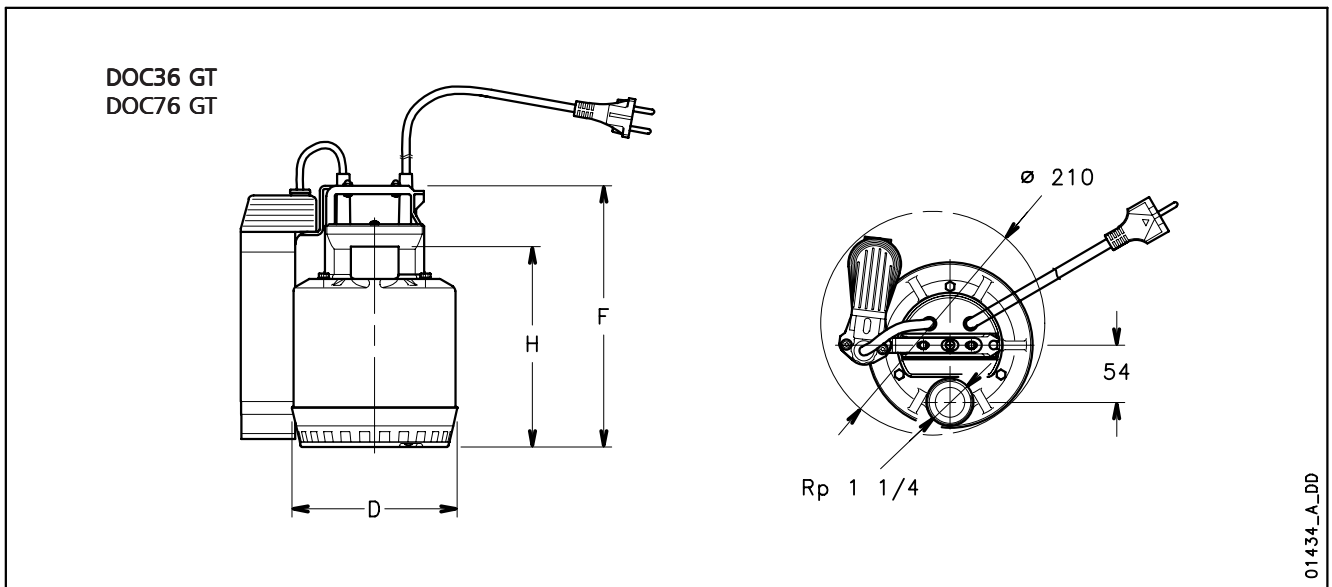


01433\_D\_DD

PUMP TYPE		DIMENSIONS (mm)				WEIGHT
		F	H	D	X*	kg
DOC36	DOC36 GT	245	188	155	20	4
DOC76(T)	DOC76(T) GT	285	228	155	20	6
DOC76VX(T)	-	310	252	175	45	6

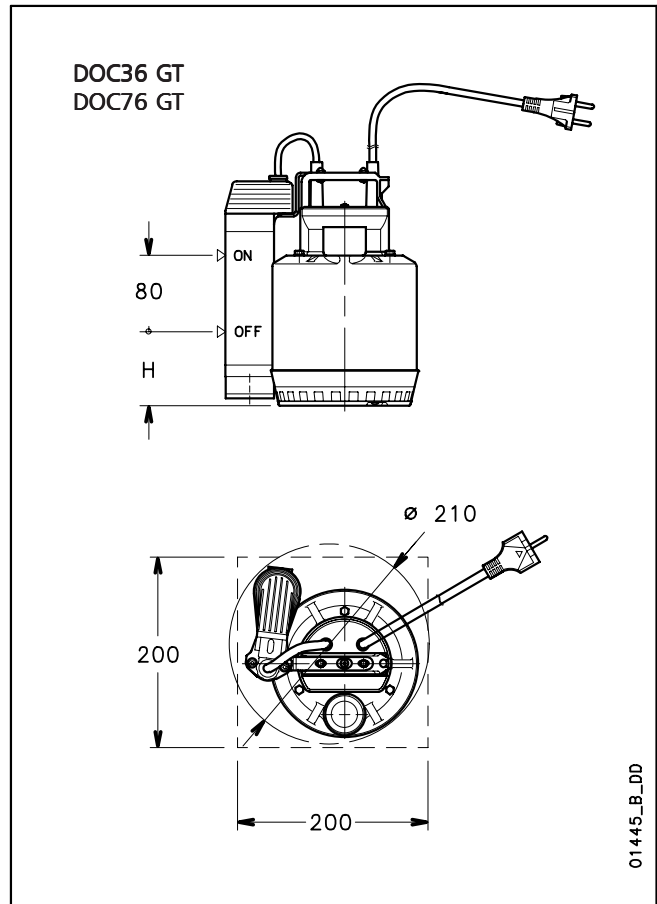
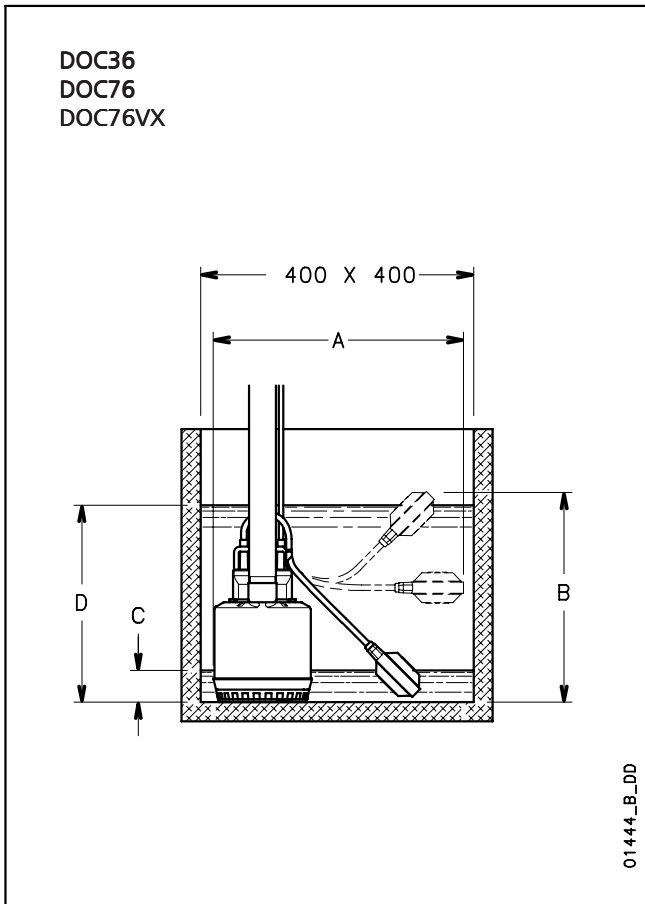
\* Minimum liquid level

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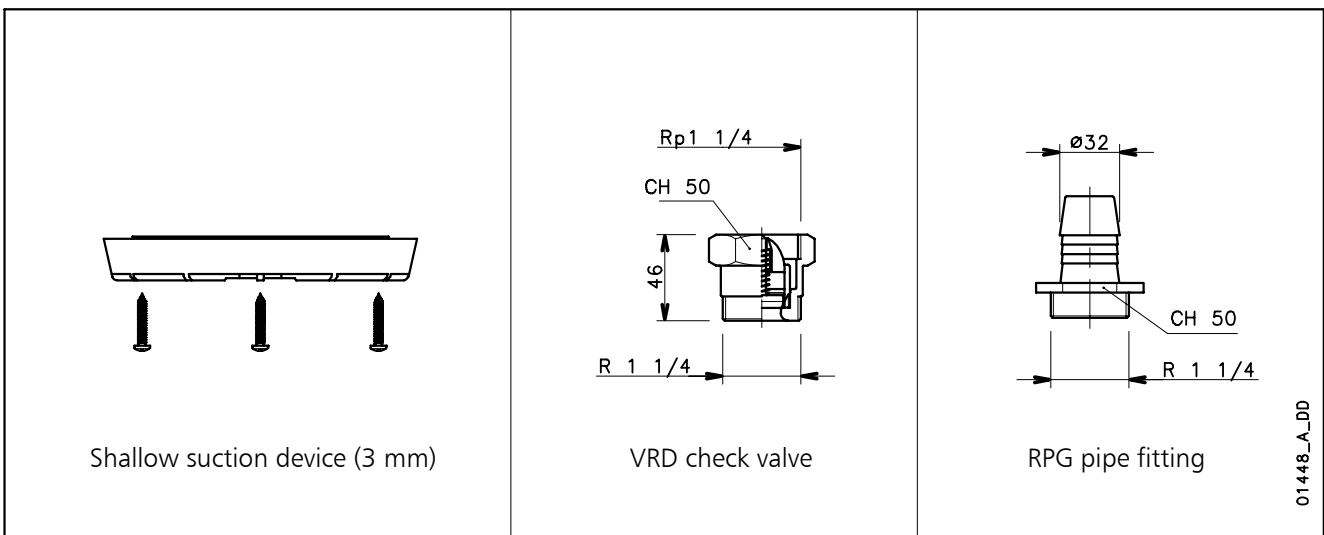
**DOC SERIES  
INSTALLATION EXAMPLES**



PUMP TYPE		DIMENSIONS (mm)		MINIMUM WATER LEVEL	MAXIMUM WATER LEVEL	MINIMUM WATER LEVEL
		A	B	C	D	H
DOC36	DOC36 GT	390	330	50	310	90
DOC76	DOC76 GT	390	370	90	350	90
DOC76VX	-	390	395	115	375	-

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**ACCESSORIES**



## Submersible Electric Pumps for drainage of clean and slightly dirty water

### DIWA Series 60 Hz



Submersible pumps for clean and slightly dirty water manufactured in AISI 304 stainless steel. Head up to 20 metres, delivery up to 420 l/min (25,2 m<sup>3</sup>/h). Four basic models with 0,55 to 1,5 kW power.

#### **DRIVELUB SEAL SYSTEM.**

Diffuser plate coated with polyurethane for the maximum resistance to abrasion.

#### **APPLICATIONS**

- Draining of cellars, garages, basements.
- Draining of construction sites.
- Emptying of tanks and reservoirs.
- Lawn and garden irrigation.
- Pumping of domestic wastewater washing machines, showers, sinks.
- Emptying of tanks in industrial and ecological applications.

#### **SPECIFICATIONS**

- **Maximum liquid temperature: 50°C.**
- **Open impeller.**
- Minimum level of pumped liquid: **25 mm.**
- **Maximum dimensions of suspended solids: 8 mm.**
- **Dry motor** cooled by the pumped liquid.
- **Power cord: H07RN-F, 10 m.**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 155°C (F).**
- **IPX8 protection.**
- **Maximum immersion depth: 7 m.**

#### • **Versions:**

- Single-phase: 220-230V, 60Hz, 2 poles.
- Three-phase: 220-230V, 60Hz, 2 poles. 380-400V, 60Hz, 2 poles.

#### • **Motor power:**

- Single-phase: **0,55 to 1,1 kW.**
- Three-phase: **0,55 to 1,5 kW.**

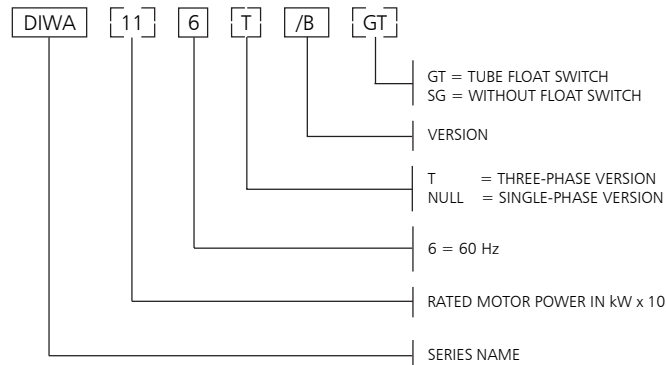
#### • **The single-phase versions** feature:

- **pre-assembled float switch** for automatic pump operation.
- **built-in capacitor.**
- **thermal overload protection** to stop pump supply in case of overheating.
- SG versions (single-phase without float switch), GT versions (single-phase with pre-assembled tube float switch), 50 Hz single-phase and three-phase versions, versions with various power cord lengths and various plugs are available on request.

#### **DRIVELUB SEAL SYSTEM**

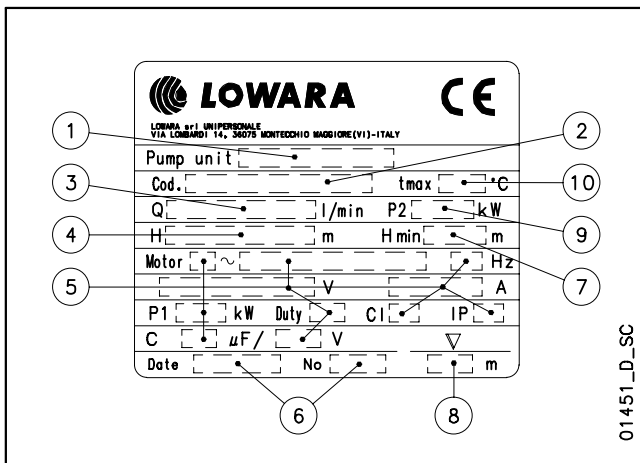
- Watertight electric motor protected by multiple seal system with **oil chamber.** A **V-ring** and **silicon carbide mechanical seal** (extremely resistant to wear and abrasion), as well as a **lip seal** which is continuously lubricated by the **DRIVELUB system**, provide an extreme barrier against infiltration.

## DIWA SERIES IDENTIFICATION CODE



EXAMPLE : DIWA 116/B  
DIWA Series Electric pump, rated motor power 1,1 kW, 60 Hz version, single-phase, /B version.

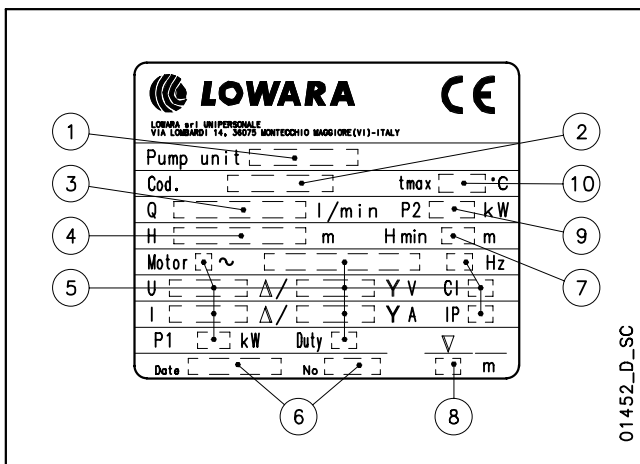
### SINGLE-PHASE RATING PLATE



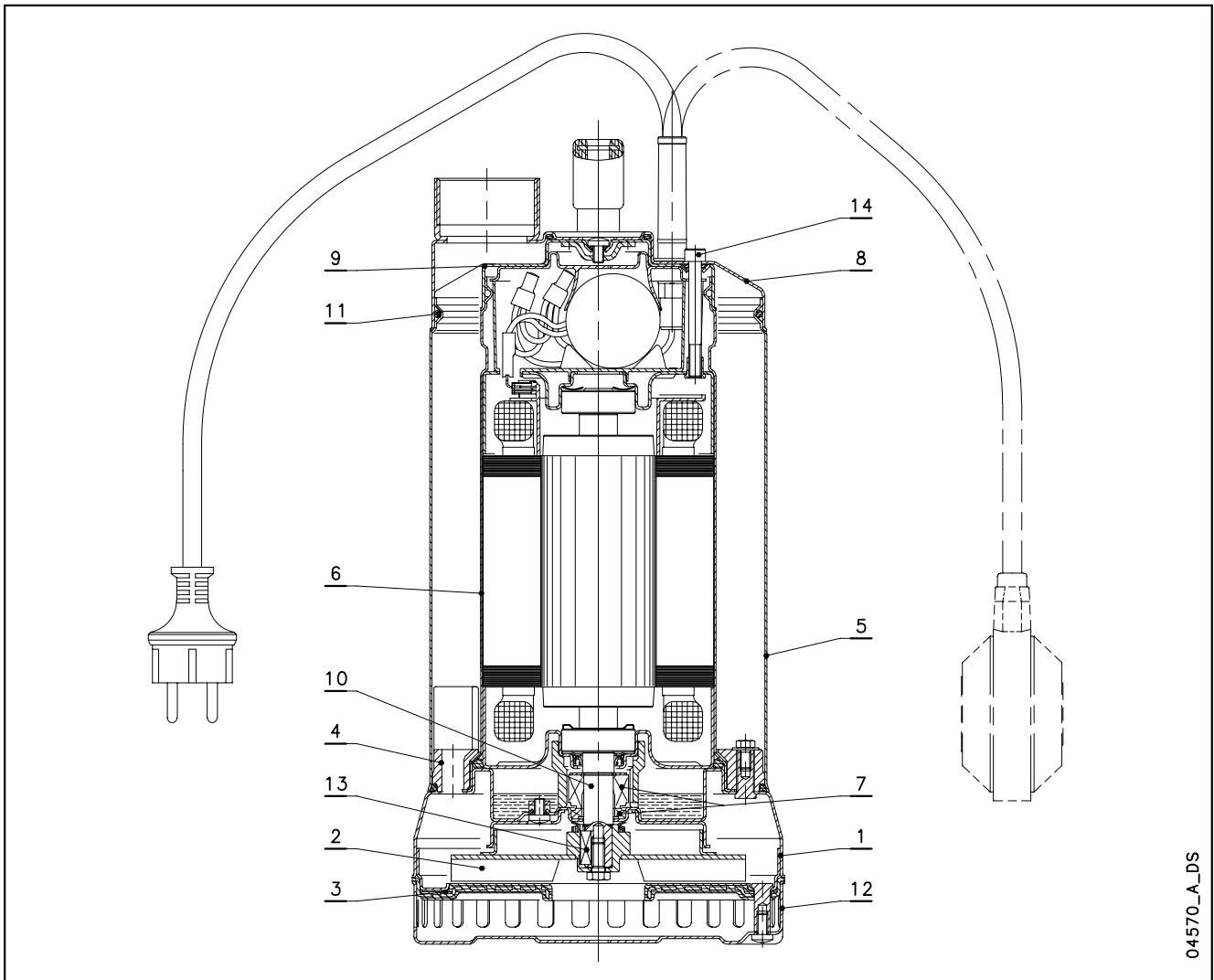
### LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacture and serial number
- 7 - Minimum head
- 8 - Maximum immersion depth
- 9 - Rated output
- 10 - Maximum liquid temperature

### THREE-PHASE RATING PLATE



## DIWA SERIES LIST OF MODELS AND TABLE OF MATERIALS

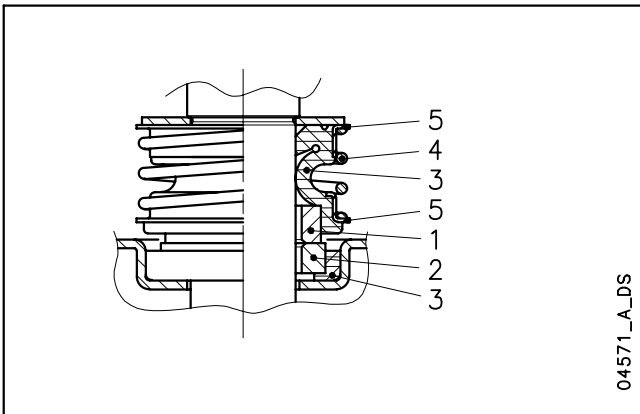


04570\_A\_DS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Suction flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
		Thermoplastic polyurethane TPU		
4	Diffuser	PA 66 + 30 % GF		
5	Sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	Mechanical seal	Silicon carbide / Silicon carbide / NBR (standard version)		
8	Cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
9	Upper cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
11	Elastomers	NBR (standard version)		
12	Strainer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
14	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

diwa-en\_b\_tm

## DIWA SERIES MECHANICAL SEAL



### LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
Q1 : Silicon carbide	P : NBR V : FPM	G : AISI 316

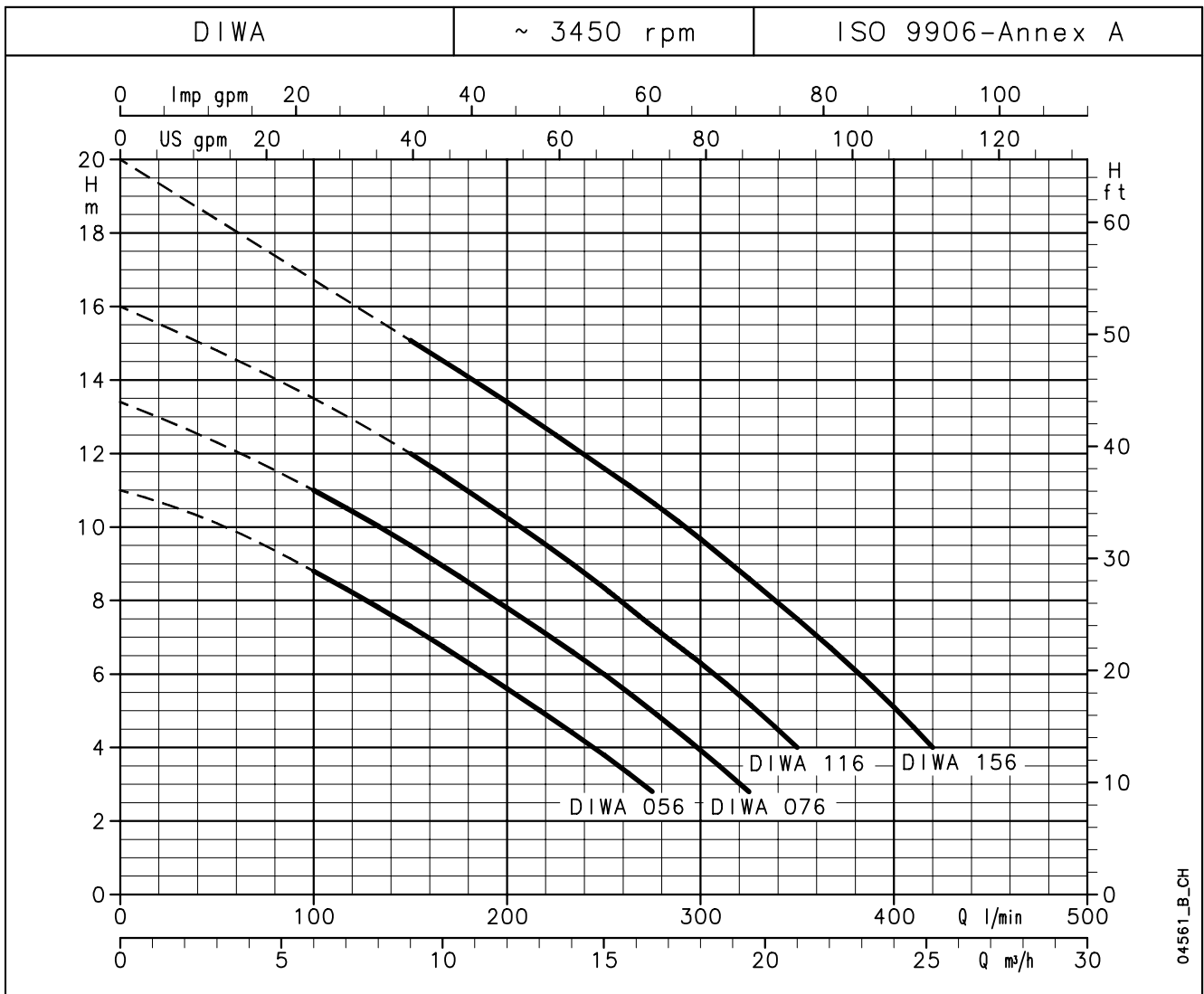
diwa\_ten-mec-en\_a\_tm

### SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
<b>STANDARD MECHANICAL SEAL</b>						
Q <sub>1</sub> Q <sub>1</sub> PGG	Q <sub>1</sub>	Q <sub>1</sub>	P	G	G	0 +50
<b>OTHER MECHANICAL SEAL TYPES</b>						
Q <sub>1</sub> Q <sub>1</sub> VGG	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	0 +50

diwa\_tipi-ten-mec-en\_b\_tc

## DIWA SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY												
			H = TOTAL HEAD METERS COLUMN OF WATER												
			l/min	0	100	125	150	200	225	250	275	300	325	350	420
			m³/h	0	6	7,5	9	12	13,5	15	16,5	18	19,5	21	25,2
	kW	HP													
DIWA 056(T)	0,55	0,75	11	8,7	8,1	7,3	5,6	4,7	3,8	2,8	-	-	-	-	
DIWA 076(T)	0,75	1	13,4	11	10,3	9,5	7,8	6,9	6	5	3,9	2,8	-	-	
DIWA 116(T)	1,1	1,5	16	-	-	12	10,3	9,3	8,3	7,3	6,3	5,2	4	-	
DIWA 156T	1,5	2	20	-	-	15	13,4	12,5	11,6	10,7	9,7	8,6	7,5	4	

These performances are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$

diwa-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

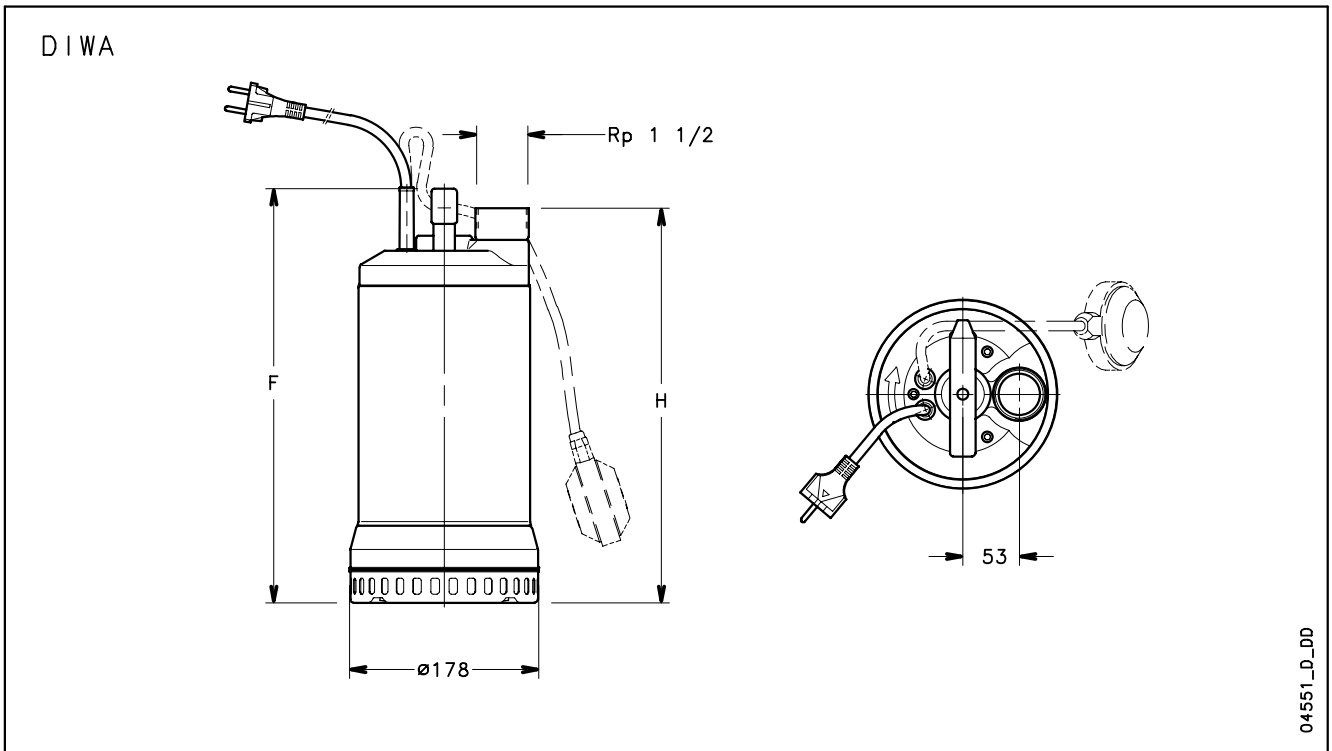
PUMP TYPE	SINGLE-PHASE		
	INPUT POWER*	INPUT CURRENT*	CAPACITOR
	kW	220-230 V A	$\mu\text{F} / 450 \text{ V}$
DIWA 056	0,92	4,53	20
DIWA 076	1,18	5,73	22
DIWA 116	1,39	6,27	30
	-	-	-

PUMP TYPE	THREE-PHASE		
	INPUT POWER*	INPUT CURRENT*	INPUT CURRENT*
	kW	220-230 V A (1)	380-400 V A
DIWA 056T	0,81	2,46	1,42
DIWA 076T	1,13	3,62	2,09
DIWA 116T	1,29	4	2,31
DIWA 156T	1,78	5,56	3,21

\*Maximum value in specified range  
(1) Available on request

diwa-2p60-en\_b\_te

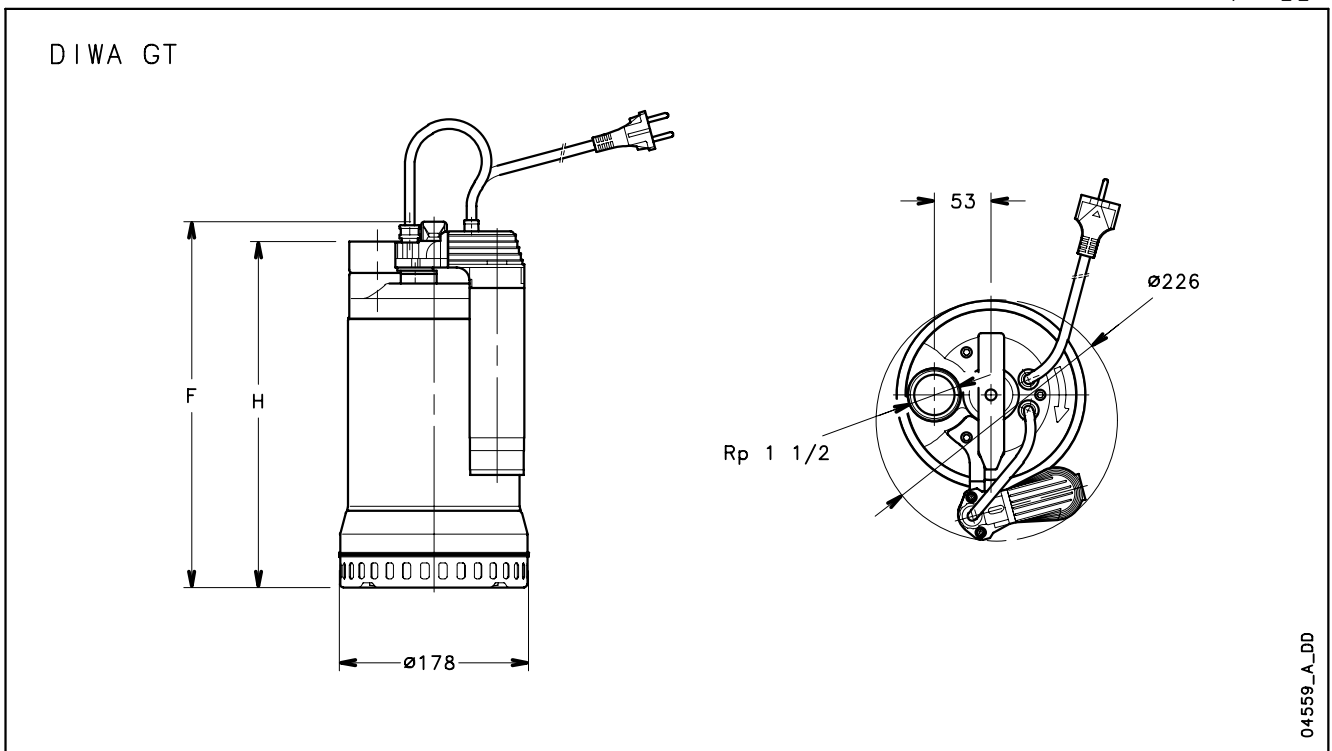
**DIWA SERIES  
DIMENSIONS AND WEIGHTS AT 60 Hz**



PUMP TYPE SINGLE-PHASE		DIMENSIONS (mm)		WEIGHT
		F	H	kg
DIWA056	DIWA056 GT	363	345	13,2
DIWA076	DIWA076 GT	393	375	14,5
DIWA116	DIWA116 GT	393	375	17,2
-	-	-	-	-

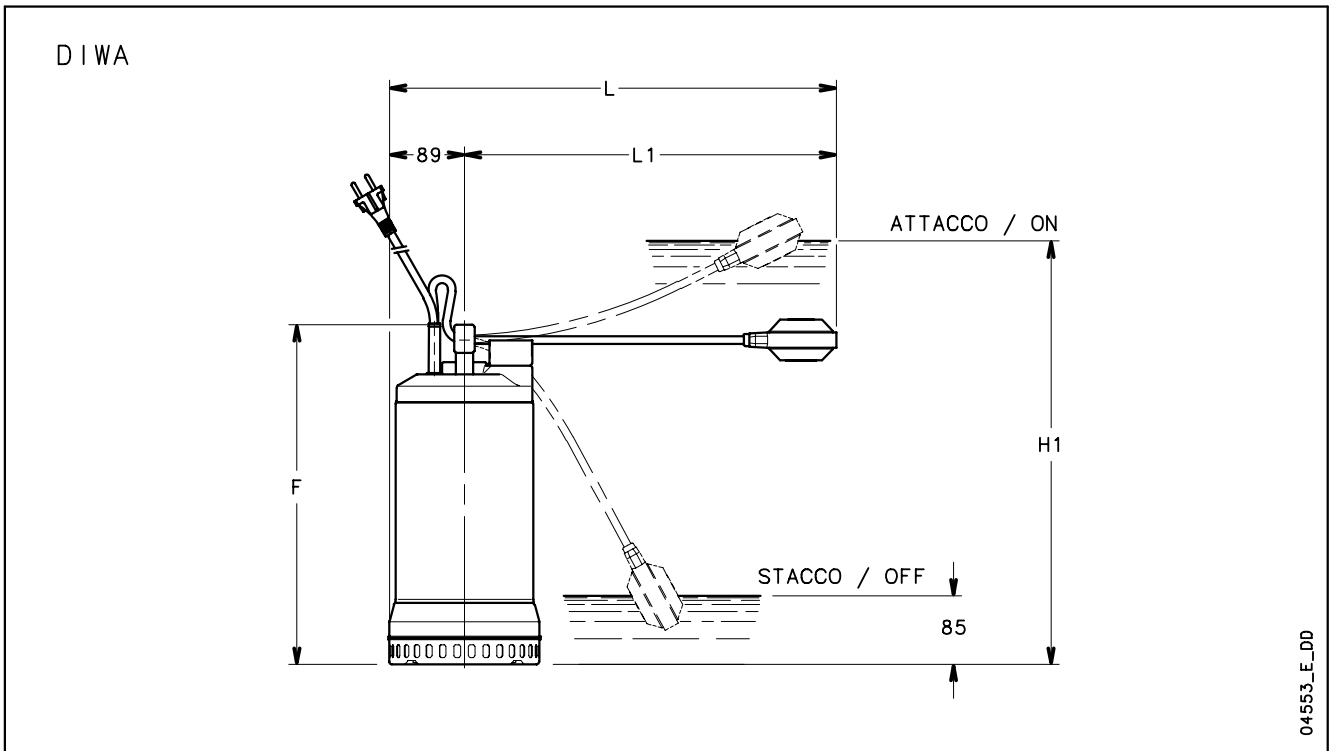
PUMP TYPE THREE-PHASE		DIMENSIONS (mm)		WEIGHT
		F	H	kg
DIWA056T		348	330	12,2
DIWA076T		363	345	13,2
DIWA116T		393	375	15,2
DIWA156T		393	375	16,7

diwa-2p60-en\_c\_td



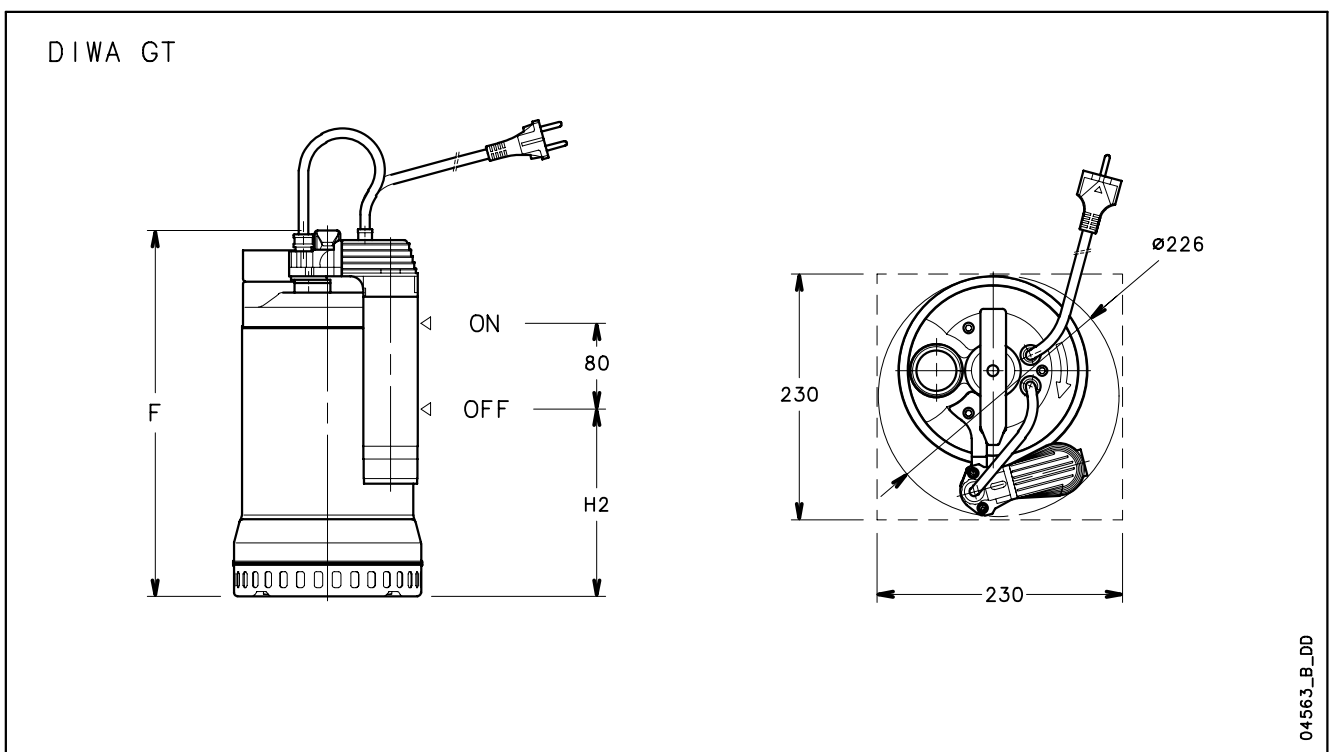


**DIWA SERIES  
INSTALLATION EXAMPLES**



PUMP TYPE		DIMENSIONS (mm)				
		F	L	L1	H1	H2
DIWA056	DIWA056 GT	363	484	395	450	195
DIWA076	DIWA076 GT	393	514	425	490	180
DIWA116	DIWA116 GT	393	514	425	490	180

diwaliv-2p60-en\_c\_td





## Submersible Electric Pumps for drainage of dirty water

The DOMO series electric pumps are available with **twin-channel** or **vortex** impeller (DOMO VX). Designed to handle liquids with suspended solids up to 50 mm in diameter (35 mm for DOMO S76 and DOMO S76VX). Four basic models with 0,55 to 1,5 kW power.

### DRIVELUB SEAL SYSTEM.

## DOMO Series



### APPLICATIONS

- Pumping of effluent (VX model handles also suspended filaments).
- Emptying of septic tanks and residential sumps.
- Draining of flooded basements and garages.

### SPECIFICATIONS

- **Maximum liquid temperature:** 35°C with fully submerged pump.
- **Dry motor.**
- **Power cord: H07RN-F**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 155°C (F).**
- **IPX8 protection.**
- **Maximum immersion depth: 5 m.**
- **Versions:**
  - Single-phase: 220-230V, 60Hz, 2 poles.
  - Three-phase: 220-230V, 60Hz, 2 poles. 380-400V, 60Hz, 2 poles.
- **Motor power:**
  - single-phase: **0,55 to 1,1 kW.**
  - three-phase: **0,55 to 1,5 kW.**

- **The single-phase versions** feature:
  - **pre-assembled float switch** for automatic pump operation.
  - **built-in capacitor.**
  - **thermal overload protection** to stop pump supply in case of overheating.
- The **DOMO S76** and **DOMO S76VX** models feature:
  - **Rp 1 1/2" threaded delivery port** (female gas).
  - handling of liquids with suspended **solids up to 35 mm** in diameter.
  - **stainless steel impeller.**
- The **DOMO 106-156-206** and **DOMO 106-156-206 VX** models feature:
  - **Rp 2" threaded delivery port** female gas (can be turned into a flanged version if an optional accessory is installed).
  - handling of liquids with suspended **solids up to 50 mm** in diameter.
  - **stainless steel twin-channel or vortex impeller.**

### DRIVELUB SEAL SYSTEM

- Watertight electric motor protected by multiple seal system with **oil chamber**. A **V-ring** and **silicon carbide mechanical seal** (extremely resistant to wear and abrasion), as well as a **lip seal** which is continuously lubricated by the **DRIVELUB system**, provide an extreme barrier against infiltration.

## Submersible Electric Pumps for drainage of dirty water equipped with grinder system

### DOMO GRI Series 60 Hz



The DOMO GRI series electric pumps are equipped with an extremely efficient and highly reliable grinder system. The grinder is able to macerate all the solids present in the sewage and to pass it through small discharge pipes (25 mm diameter).

DOMO GRI is available in the 1,1 kW power.

#### **DRIVELUB SEAL SYSTEM.**

#### **APPLICATIONS**

- Pumping of sewage with suspended solids.
- Emptying of septic tanks and residential sumps.
- Draining of flooded areas.
- Pumping water from a pressurized sewer network.

#### **SPECIFICATIONS**

- **Maximum liquid temperature:** 35°C with fully submerged pump.
- **Dry motor.**
- **Power cord: H07RN-F**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 155°C (F).**
- **IPX8 protection.**
- **Maximum immersion depth: 5 m.**

#### • **Versions:**

- Single-phase: 220-230V, 60Hz, 2 poles.
- Three-phase: 220-230V, 60Hz, 2 poles.  
380-400V, 60Hz, 2 poles.

#### • **Motor power:**

- **1,1 kW** single-phase and three-phase.

#### • **The single-phase versions** feature:

- **pre-assembled float switch** for automatic pump operation.
- **built-in capacitor.**
- **thermal overload protection** to stop pump supply in case of overheating.

#### • **DOMO GRI** pumps feature:

- **Rp 1" threaded delivery port** (female gas).
- technopolymer PBT **Impeller.**
- high resistance stainless steel **grinder.**

#### **DRIVELUB SEAL SYSTEM**

- Watertight electric motor protected by multiple seal system with **oil chamber.**

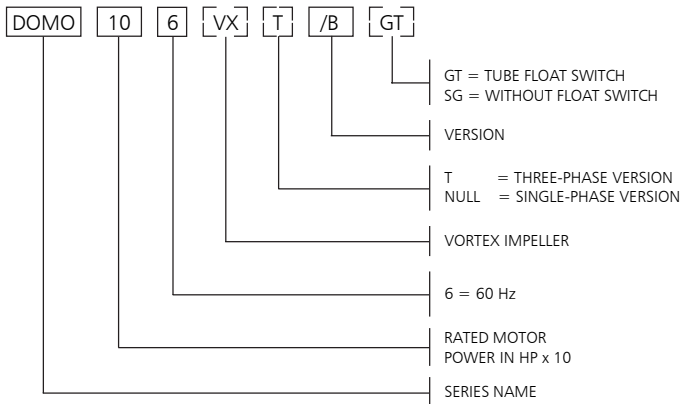
A **V-ring** and **silicon carbide**

**mechanical seal** (extremely resistant to wear and abrasion),

as well as a **lip seal** which is continuously lubricated by the

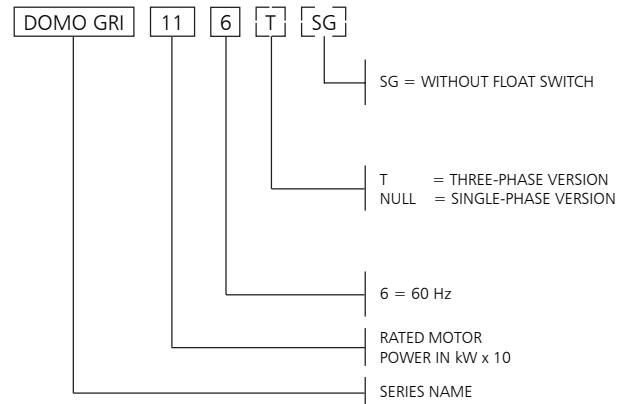
**DRIVELUB system**, provide an extreme barrier against infiltration.

## DOMO SERIES IDENTIFICATION CODE



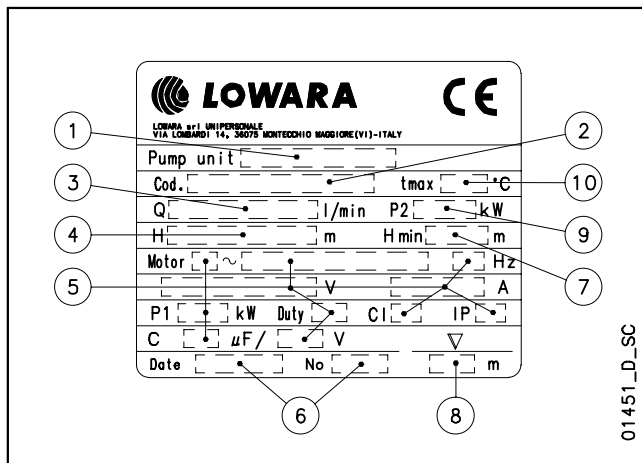
EXAMPLE : DOMO 106/B  
DOMO Series Electric pump, rated motor power 1 HP, 60 Hz version, single-phase, /B version.

## DOMO GRI SERIES IDENTIFICATION CODE



EXAMPLE : DOMO GRI 116  
DOMO GRI (grinder) Series Electric pump, rated motor power 1,1 kW, 60 Hz version, single-phase.

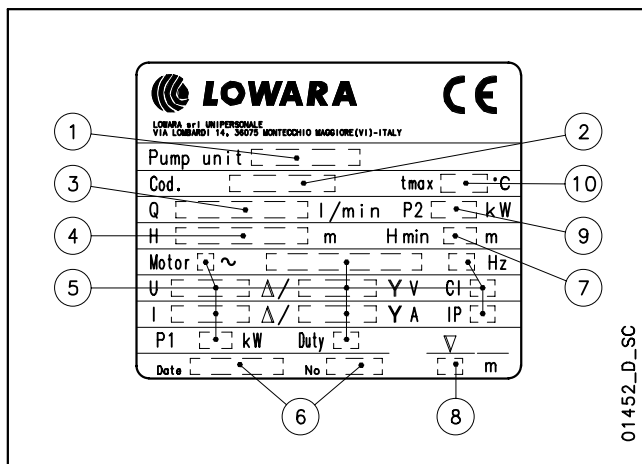
## SINGLE-PHASE RATING PLATE



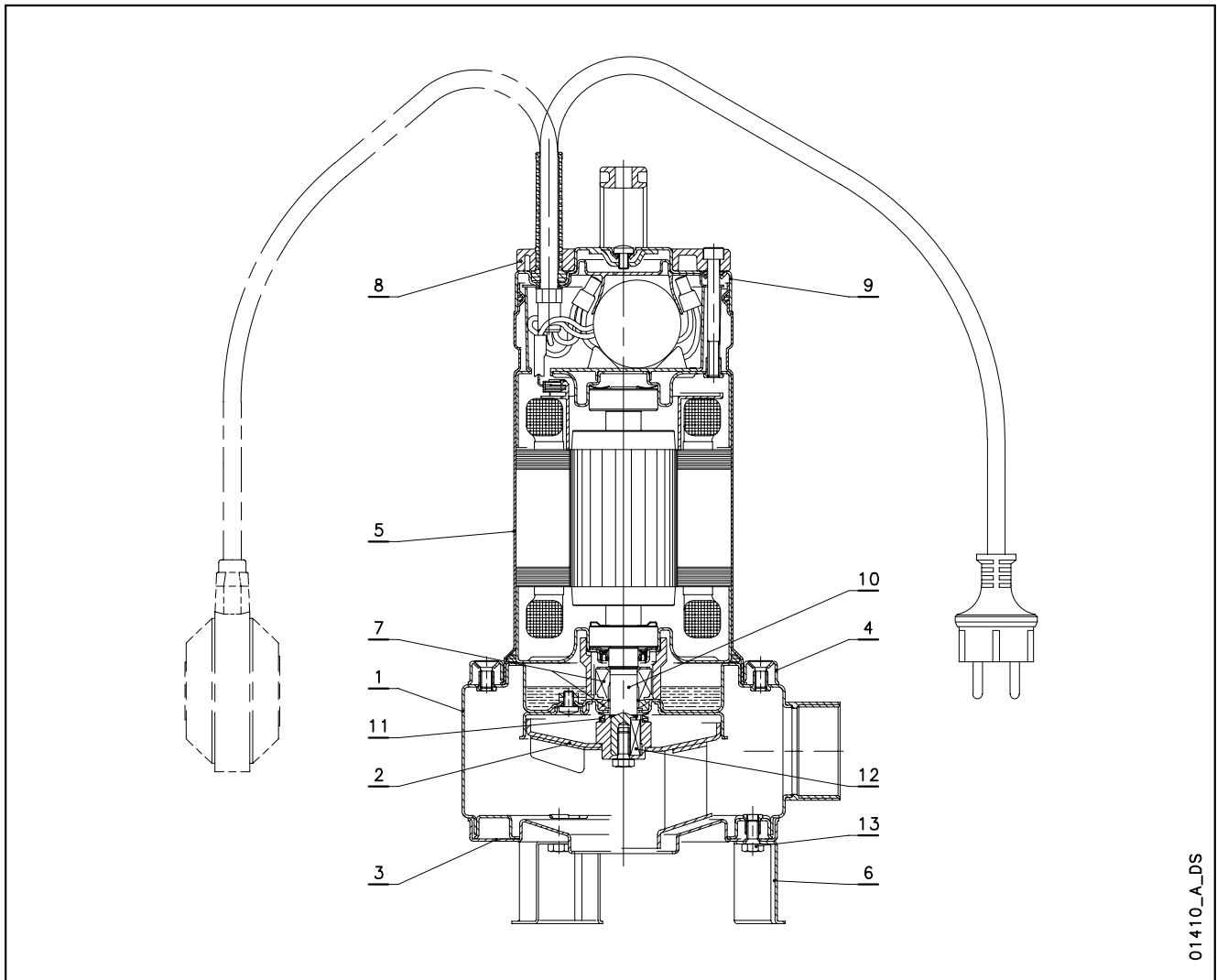
## LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacture and serial number
- 7 - Minimum head
- 8 - Maximum immersion depth
- 9 - Rated output
- 10 - Maximum liquid temperature

## THREE-PHASE RATING PLATE



## DOMO SERIES LIST OF MODELS AND TABLE OF MATERIALS

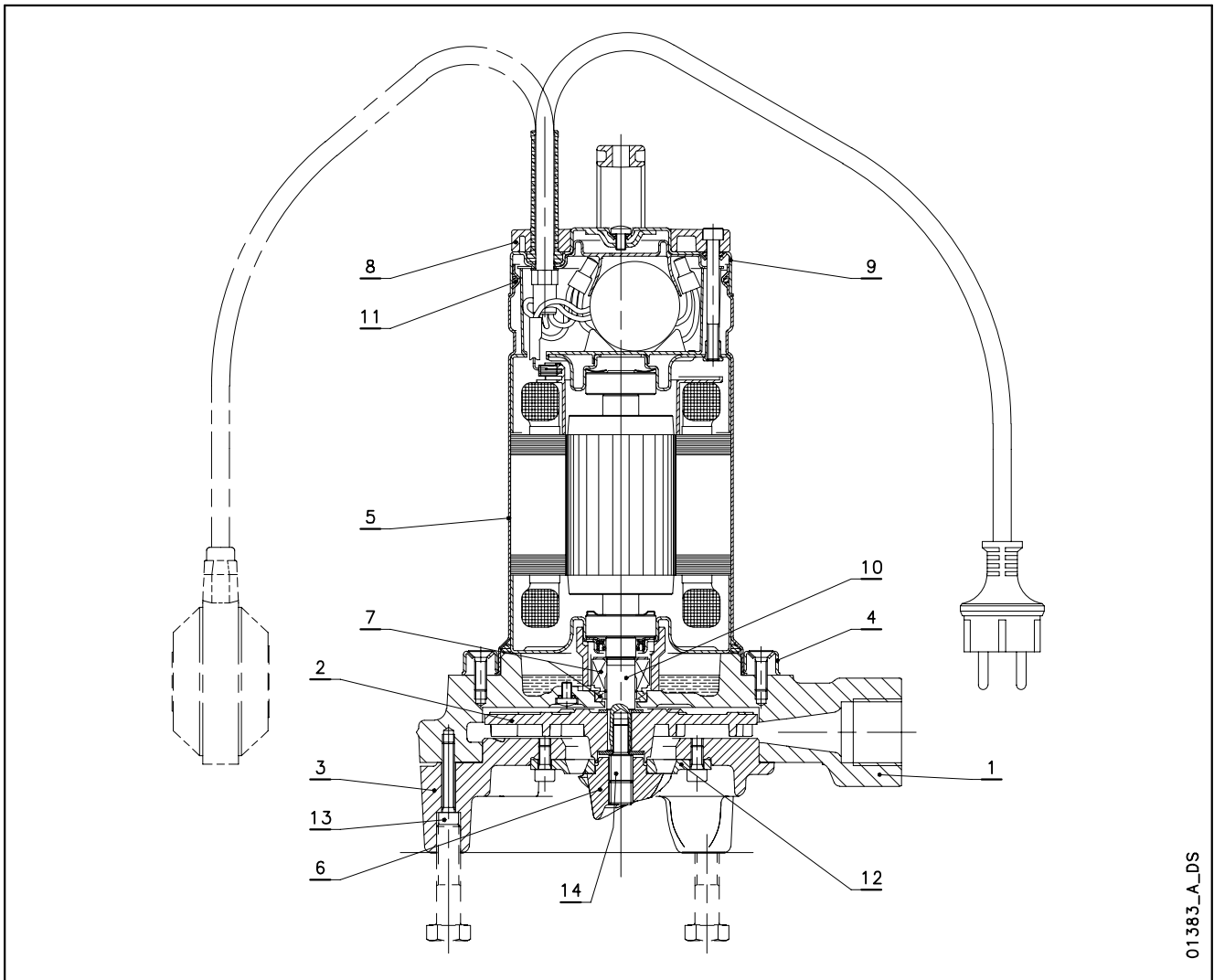


01410\_A\_DS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
2	Impeller	PA 66 + 30 % GF		
		Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Suction flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Fixing ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Support foot	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	Mechanical seal	Silicon carbide / Silicon carbide / NBR (standard version)		
8	Handle	PA 66 + 30 % GF		
9	Upper cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
11	Elastomers	NBR (standard version)		
12	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
13	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

domo-en\_b\_tm

## DOMO GRI SERIES LIST OF MODELS AND TABLE OF MATERIALS

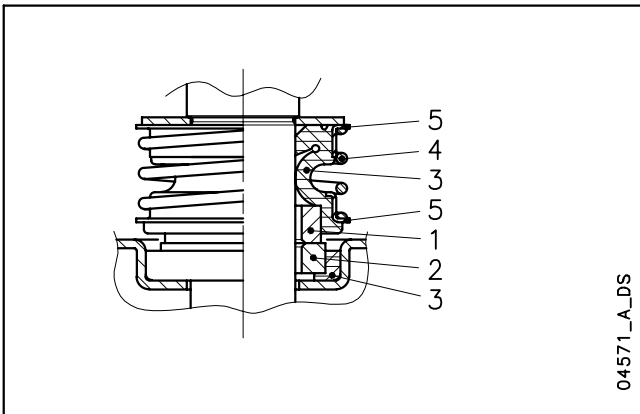


01383\_A\_DS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Impeller	PBT		
3	Suction cover	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
4	Fixing ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Cutter wheel	Stainless steel	X95CrMoV17 (DIN 1.4535)	-
7	Mechanical seal	Silicon carbide / Silicon carbide / NBR (standard version)		
8	Handle	PA 66 + 30 % GF		
9	Upper cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
11	Elastomers	NBR (standard version)		
12	Cutter ring	Stainless steel	X95CrMoV17 (DIN 1.4535)	-
13	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
14	Impeller fixing screw + wheel	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431

domo-gri-en\_c\_tm

## DOMO - DOMO GRI SERIES MECHANICAL SEAL



### LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
Q1 : Silicon carbide	P : NBR	G : AISI 316
	V : FPM	

diwa\_ten-mec-en\_a\_tm

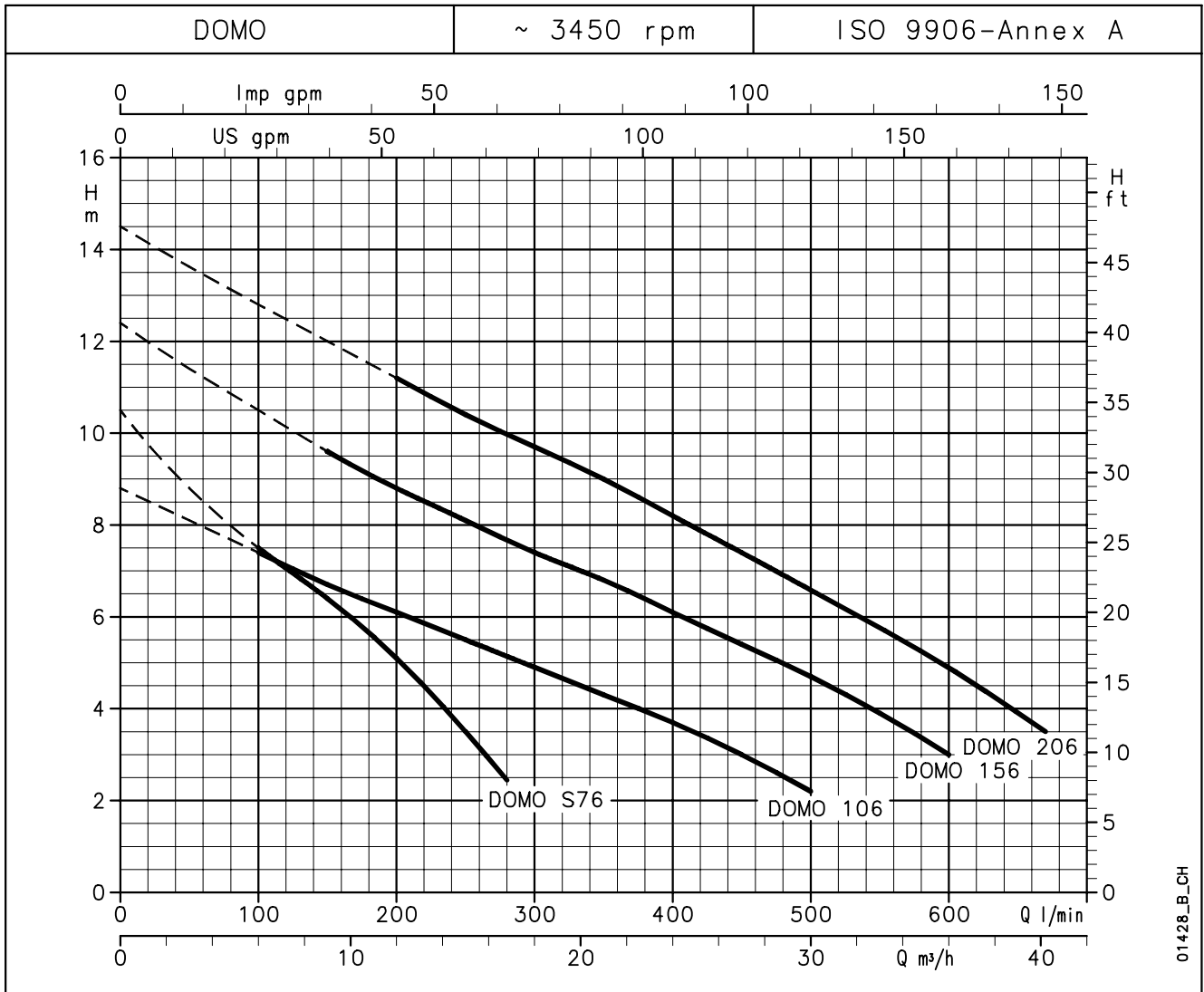
### SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
<b>STANDARD MECHANICAL SEAL</b>						
Q <sub>1</sub> Q <sub>1</sub> PGG	Q <sub>1</sub>	Q <sub>1</sub>	P	G	G	0 +35
<b>OTHER MECHANICAL SEAL TYPES</b>						
Q <sub>1</sub> Q <sub>1</sub> VGG	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	0 +35

domo\_tipi-ten-mec-en\_b\_tc



## DOMO SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY											
			H = TOTAL HEAD METERS COLUMN OF WATER											
			l/min	0	100	150	200	250	280	350	400	500	600	670
			m <sup>3</sup> /h	0	6	9	12	15	16,8	21	24	30	36	40,2
	kW	HP												
DOMO S76(T)	0,55	0,75	10,5	7,5	6,4	5,1	3,5	2,4	-	-	-	-	-	-
DOMO106(T)	0,75	1	8,8	7,4	6,7	6,1	5,5	5,1	4,3	3,7	2,2	-	-	-
DOMO156(T)	1,1	1,5	12,4	-	9,6	8,8	8,1	7,7	6,8	6,1	4,7	3	-	-
DOMO206T	1,5	2	14,5	-	-	11,2	10,4	10	9	8,2	6,6	4,9	3,5	-

These performances are valid for liquids with density  $\rho = 1.0\text{kg/dm}^3$  and kinematic viscosity  $\nu = 1\text{mm}^2/\text{sec}$

domo-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

PUMP TYPE	INPUT POWER*	INPUT CURRENT*	CAPACITOR			
				SINGLE-PHASE		
				220-230 V		
	kW	A	$\mu\text{F} / 450\text{ V}$			
DOMO S76	0,84	4,21	20			
DOMO 106	1,1	5,39	22			
DOMO 156	1,56	7,03	30			
-	-	-	-			

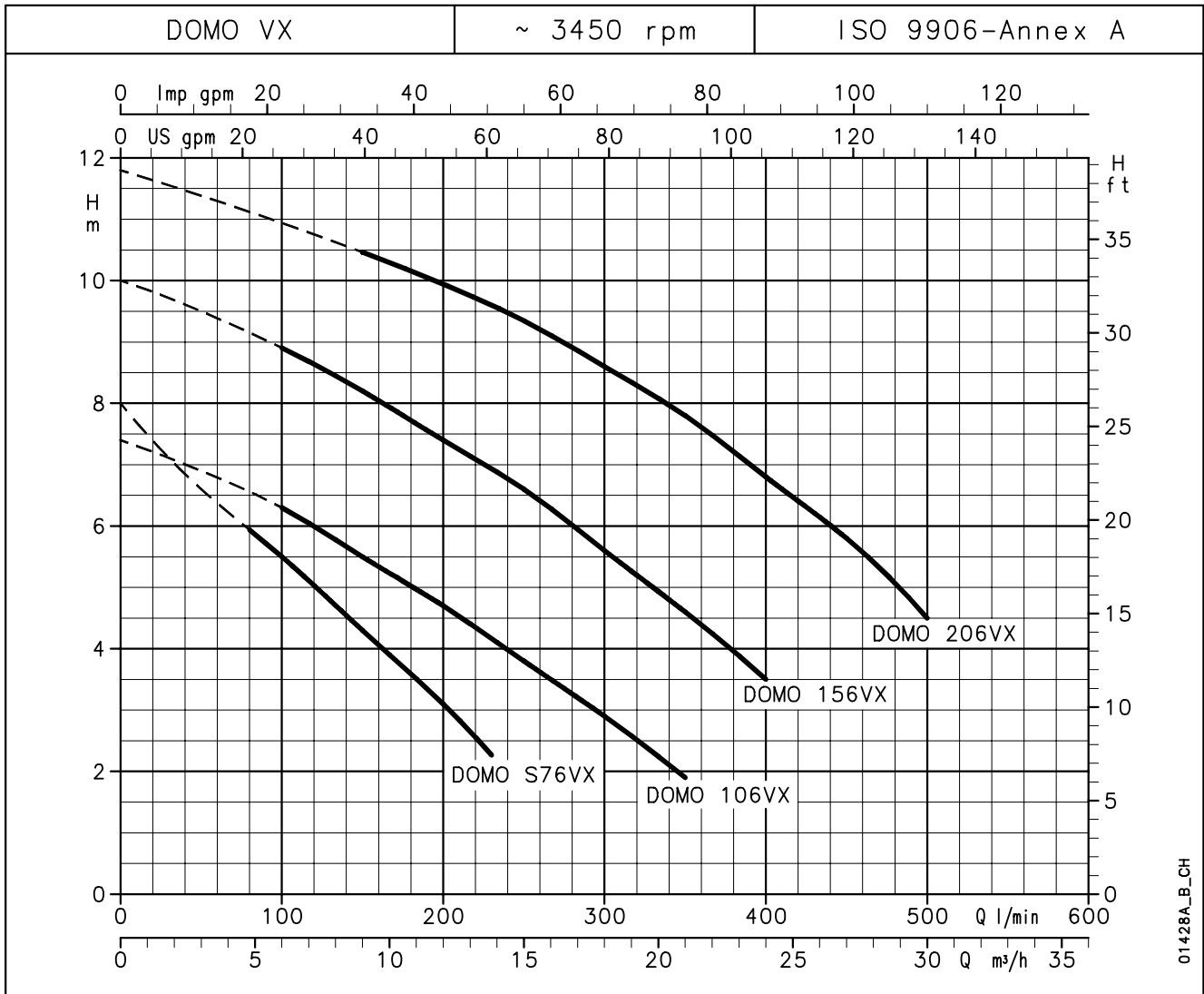
PUMP TYPE	INPUT POWER*	INPUT CURRENT*	INPUT CURRENT*			
				THREE-PHASE		
				220-230 V		
	kW	A (1)	A			
DOMO S76T	0,73	2,29	1,32			
DOMO106T	1,05	3,41	1,97			
DOMO156T	1,45	4,4	2,54			
DOMO206T	1,79	5,59	3,23			

\*Maximum value in specified range

(1) Available on request

domo-2p60-en\_b\_te

## DOMO VX SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY										
			l/min	0	80	100	150	200	230	300	350	400	500
			m³/h	0	4,8	6	9	12	13,8	18	21	24	30
H = TOTAL HEAD METERS COLUMN OF WATER													
	kW	HP	8	5,9	5,5	4,3	3,1	2,3	-	-	-	-	-
DOMO S76VX(T)	0,55	0,75	8	5,9	5,5	4,3	3,1	2,3	-	-	-	-	-
DOMO 106VX(T)	0,75	1	7,4	-	6,3	5,5	4,7	4,2	2,9	1,9	-	-	-
DOMO 156VX(T)	1,1	1,5	10	-	8,8	8,2	7,4	6,9	5,6	4,6	3,5	-	-
DOMO 206VXT	1,5	2	11,8	-	-	10,5	9,9	9,6	8,6	7,8	6,8	4,5	-

These performances are valid for liquids with density  $\rho = 1.0\text{kg/dm}^3$  and kinematic viscosity  $\nu = 1\text{mm}^2/\text{sec}$

domovx-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

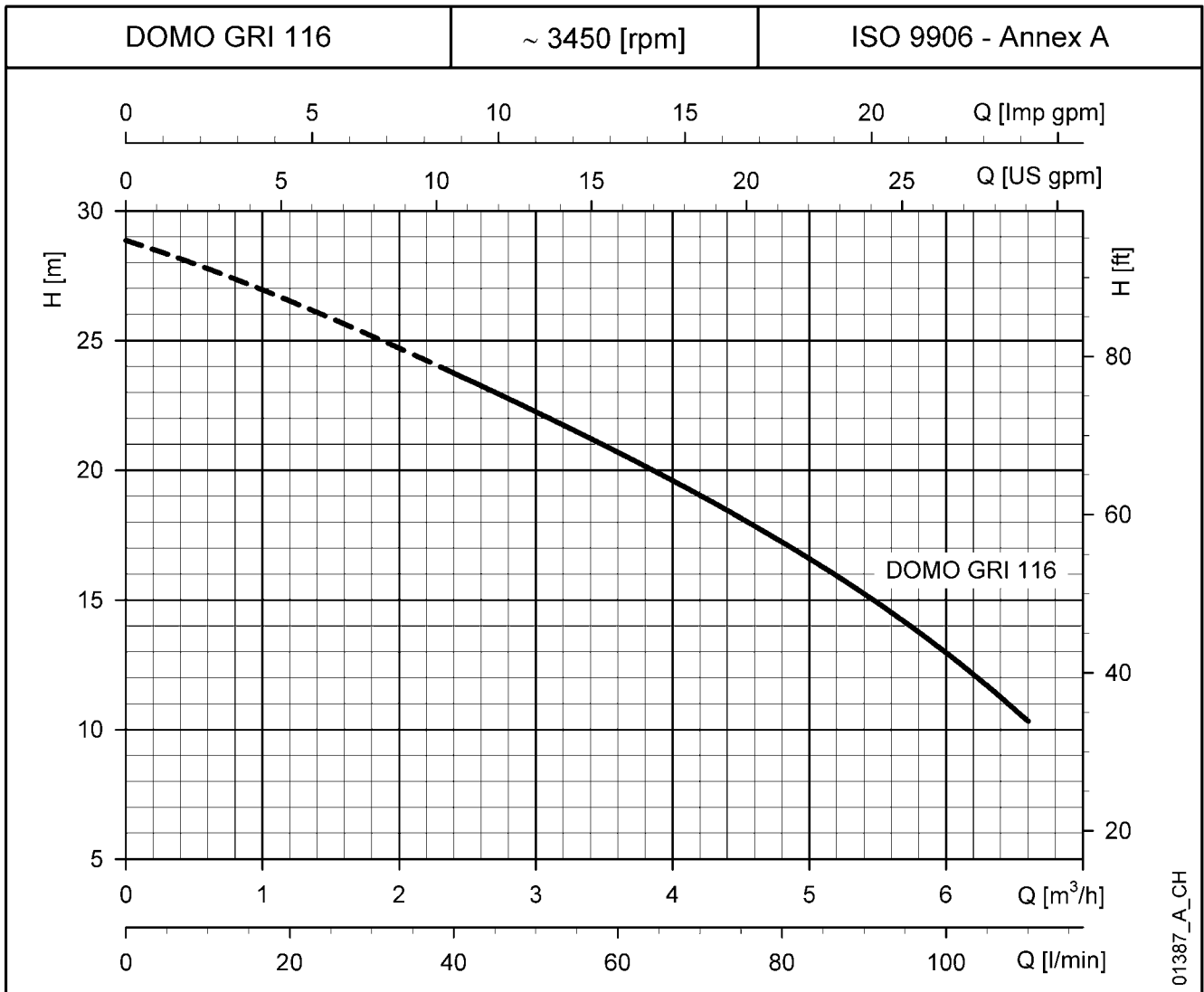
PUMP TYPE	INPUT POWER*		CAPACITOR
	POWER*	CURRENT*	
	220-230 V	220-230 V	
SINGLE-PHASE	kW	A	$\mu\text{F} / 450\text{ V}$
DOMO S76VX	0,84	4,22	20
DOMO 106VX	1,1	5,40	22
DOMO 156VX	1,57	7,08	30
-	-	-	-

PUMP TYPE	INPUT POWER*		INPUT CURRENT*
	POWER*	CURRENT*	
	220-230 V	220-230 V	
THREE-PHASE	kW	A (1)	A
DOMO S76VXT	0,73	2,3	1,33
DOMO 106VXT	1,05	3,42	1,98
DOMO 156VXT	1,46	4,43	2,56
DOMO 206VXT	1,84	5,71	3,30

\*Maximum value in specified range  
(1) Available on request

domovx-2p60-en\_b\_te

## DOMO GRI SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY											
			l/min	0	15	30	40	50	60	70	80	90	100	110
			m³/h	0	0,9	1,8	2,4	3	3,6	4,2	4,8	5,4	6	6,6
		kW	HP	H = TOTAL HEAD METRES COLUMN OF WATER										
DOMO GRI 116 (SG)	1,1	1,5	28,9	27,2	25,2	23,7	22,2	20,7	19,0	17,2	15,2	13,0	10,3	
DOMO GRI 116 T														

These performances are valid for liquids with density  $\rho = 1,0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

domo-gri-2p60\_b\_th

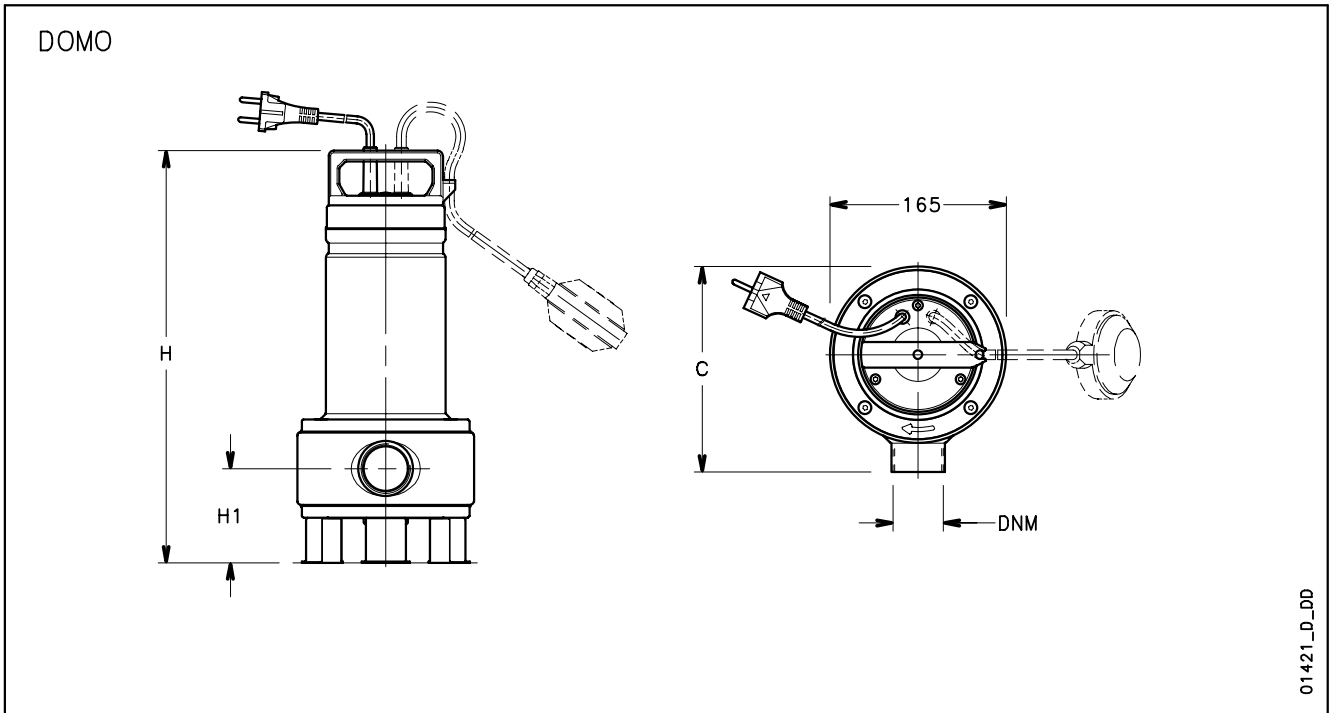
### ELECTRICAL DATA TABLE

PUMP TYPE	RATED POWER*	ABSORBED CURRENT*	CAPACITOR
SINGLE-PHASE	kW	220-230 V A	$\mu\text{F} / 450 \text{ V}$
DOMO GRI 116 (SG)	1,48	6,74	30
THREE-PHASE	kW	220-230 V A	380-400 V A
DOMO GRI 116 T	1,4	4,29	2,48

\* Maximum value in specified range

domo-gri-2p60\_a\_te

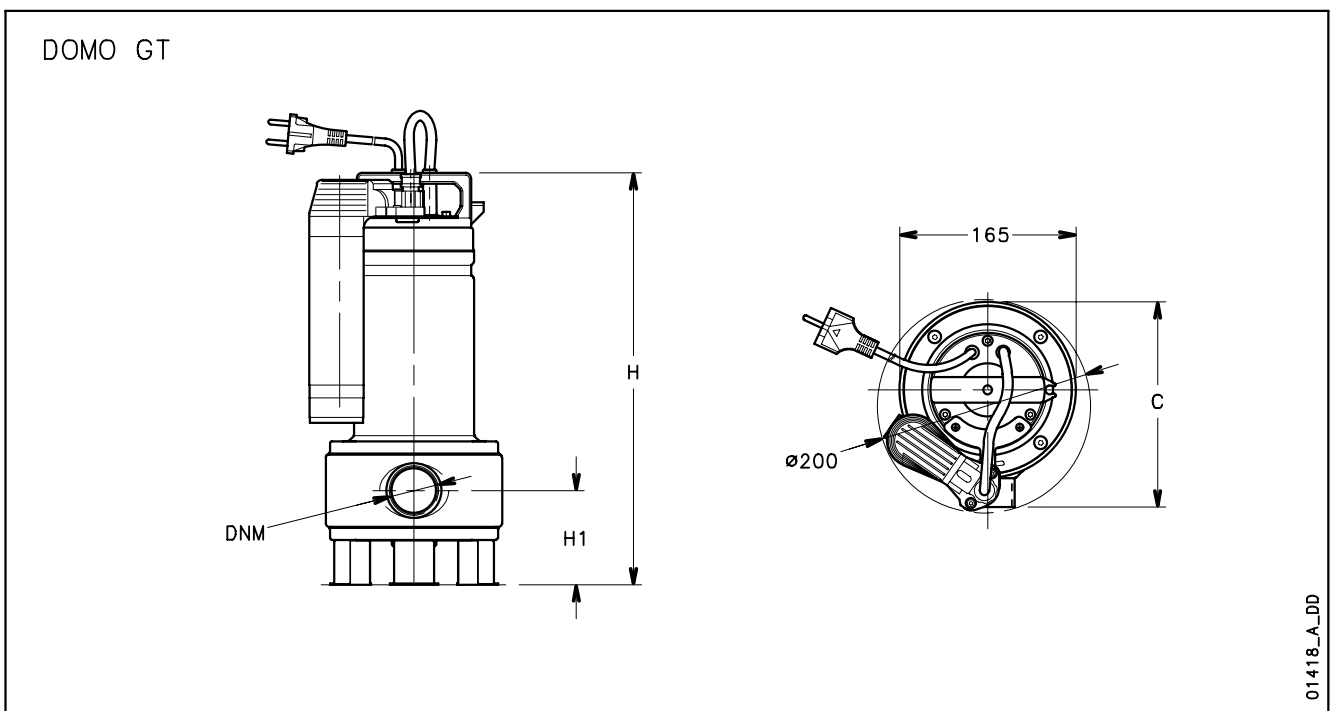
**DOMO SERIES**  
**DIMENSIONS AND WEIGHTS AT 60 Hz**



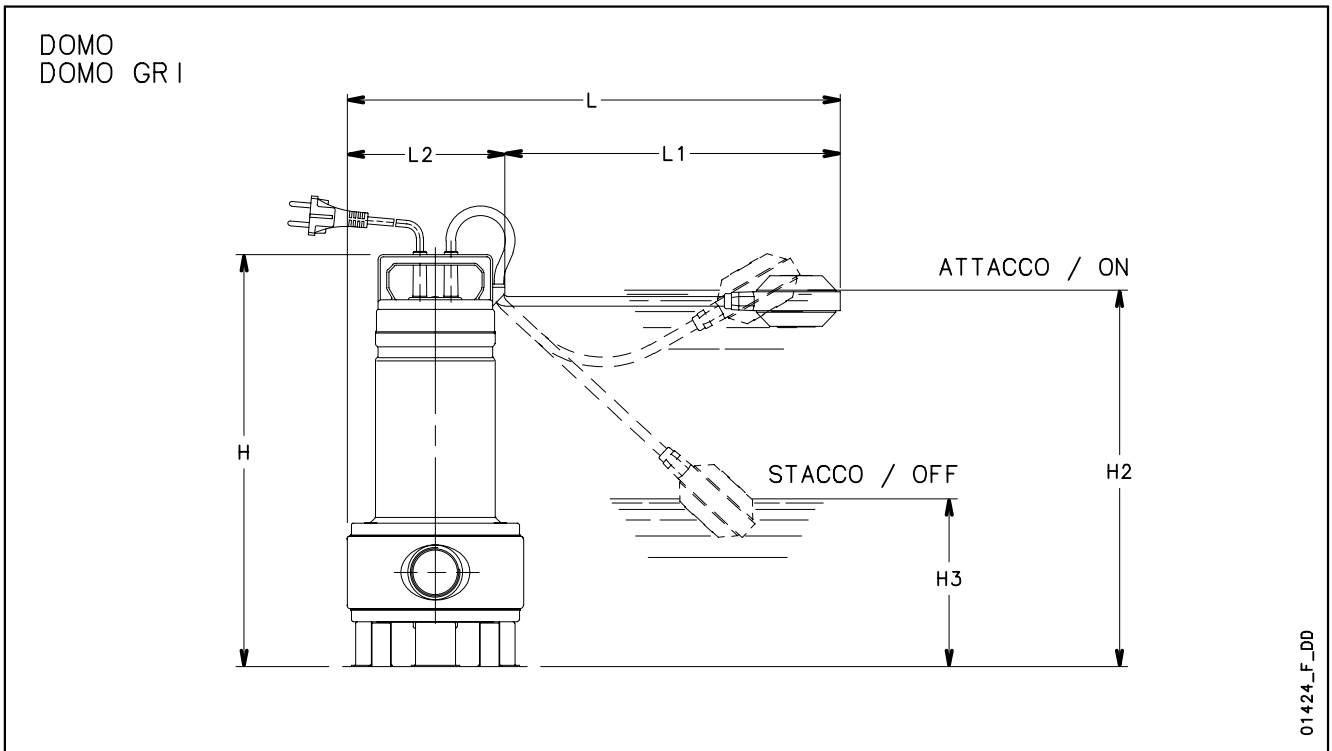
PUMP TYPE SINGLE-PHASE		DIMENSIONS (mm)			DNM	WEIGHT kg
		H	H1	C		
DOMO S76	DOMO S76 GT	406	88	193	Rp1½	11,2
DOMO S76VX	DOMO S76VX GT					
DOMO106	DOMO106 GT	468	111,5	198	Rp2	13,6
DOMO106VX	DOMO106VX GT					
DOMO156	DOMO156 GT	468	111,5	198	Rp2	15,3
DOMO156VX	DOMO156VX GT					
-	-	-	-	-	-	-

PUMP TYPE THREE-PHASE		DIMENSIONS (mm)			DNM	WEIGHT kg
		H	H1	C		
DOMO S76T	DOMO S76VXT	391	88	193	Rp1½	10,2
DOMO106T	DOMO106VXT					
DOMO156T	DOMO156VXT	468	111,5	198	Rp2	13,6
DOMO206T	DOMO206VXT					

domo-2p60-en\_c\_td

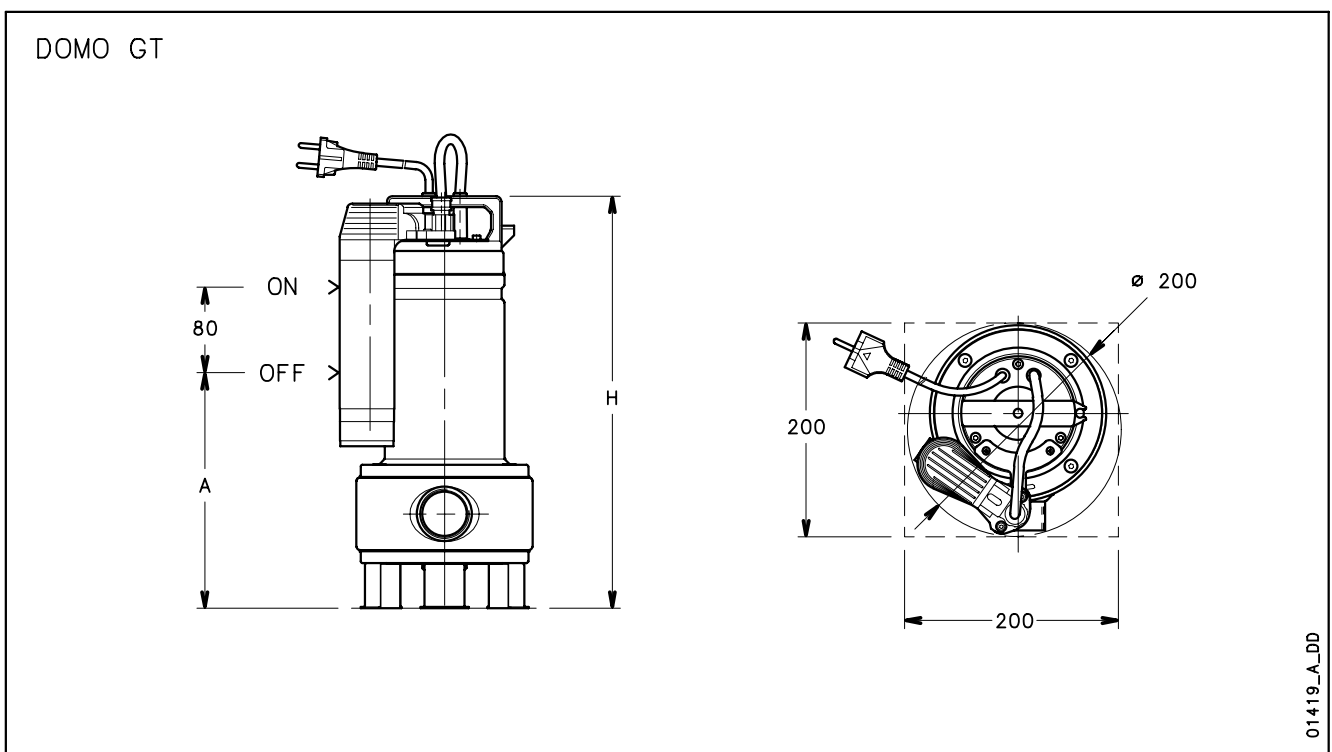


**DOMO - DOMO GRI SERIES  
INSTALLATION EXAMPLES**

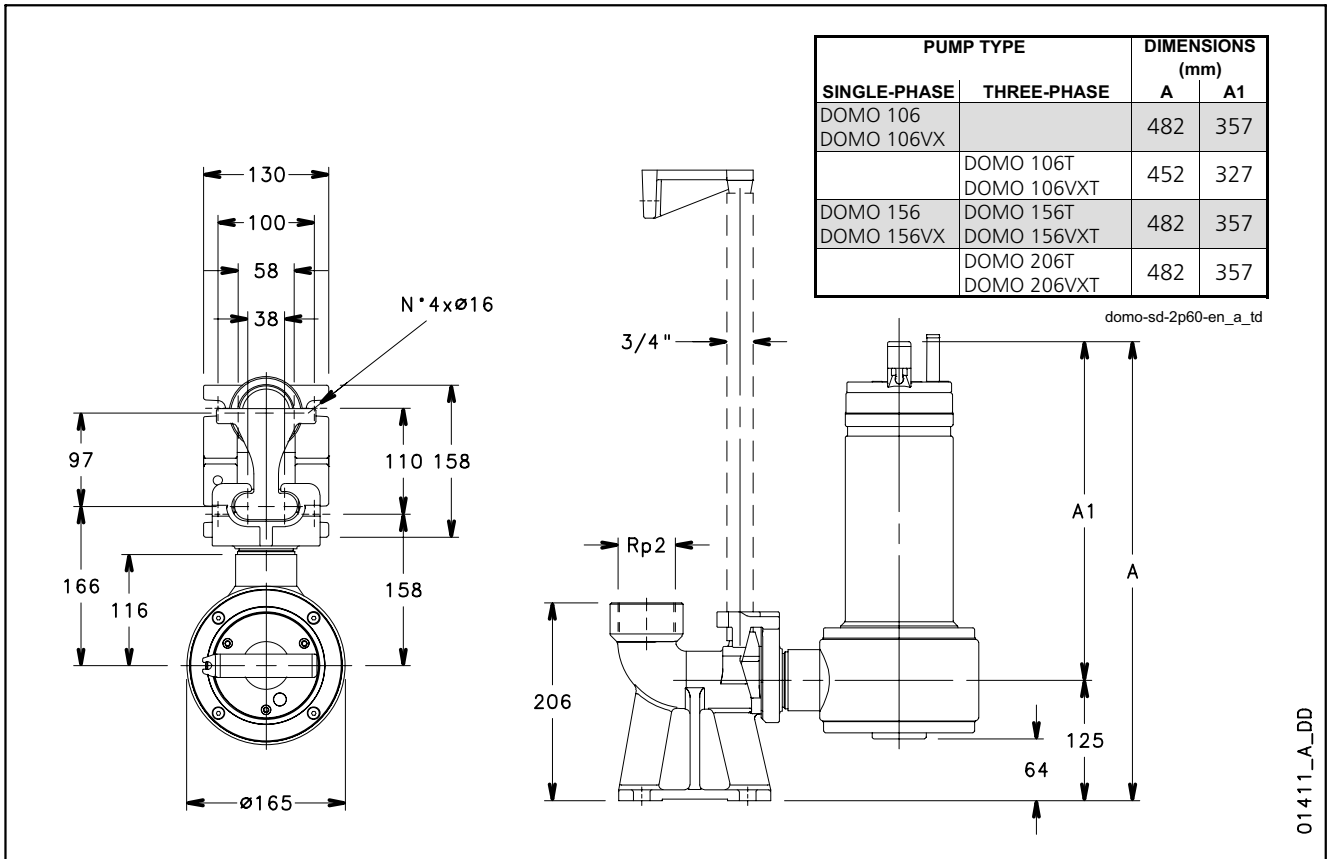


PUMP TYPE		DIMENSIONS (mm)				
		H	H2	L	L1	A
DOMO S76 - DOMO S76 GT	DOMO S76VX - DOMO S76VX GT	411	390	440	295	245
DOMO106 - DOMO106 GT	DOMO106VX - DOMO106VX GT	468	420	495	350	255
DOMO156 - DOMO156 GT	DOMO156VX - DOMO156VX GT	468	420	495	350	255

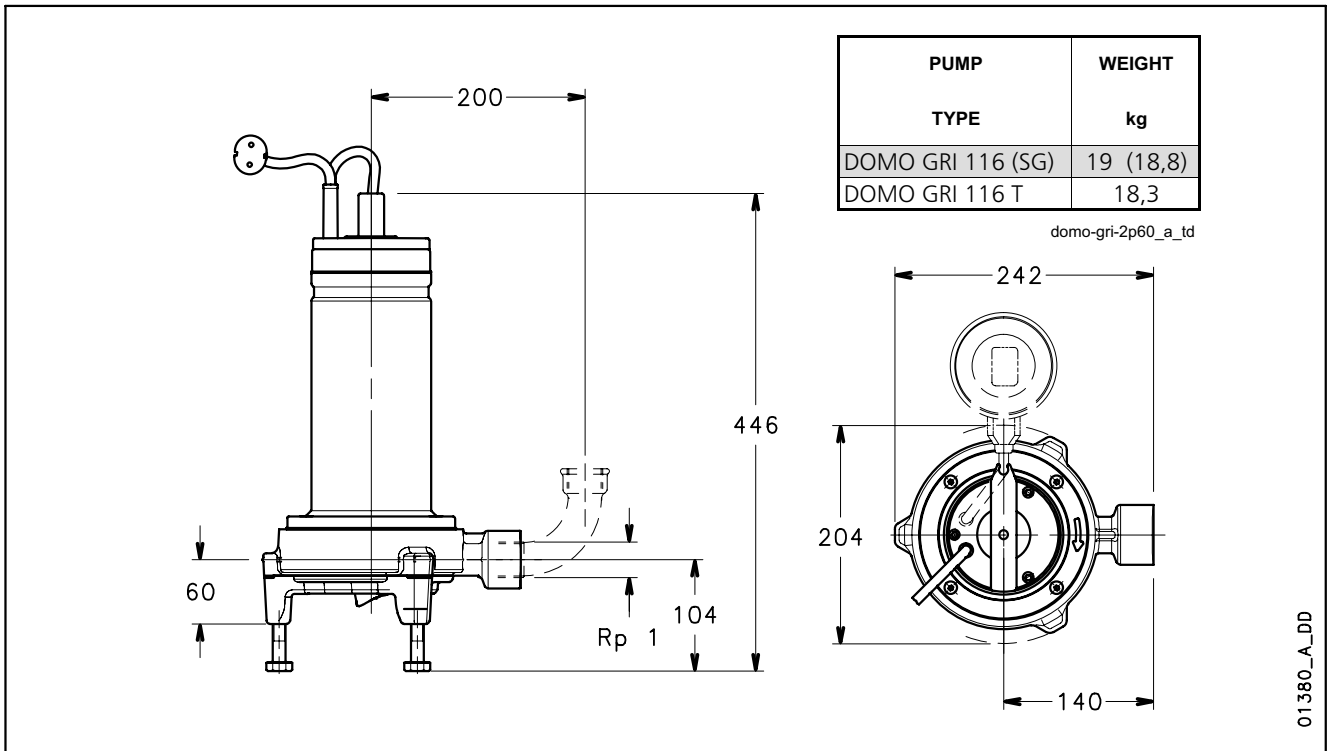
domoliv-2p60-en\_c\_td



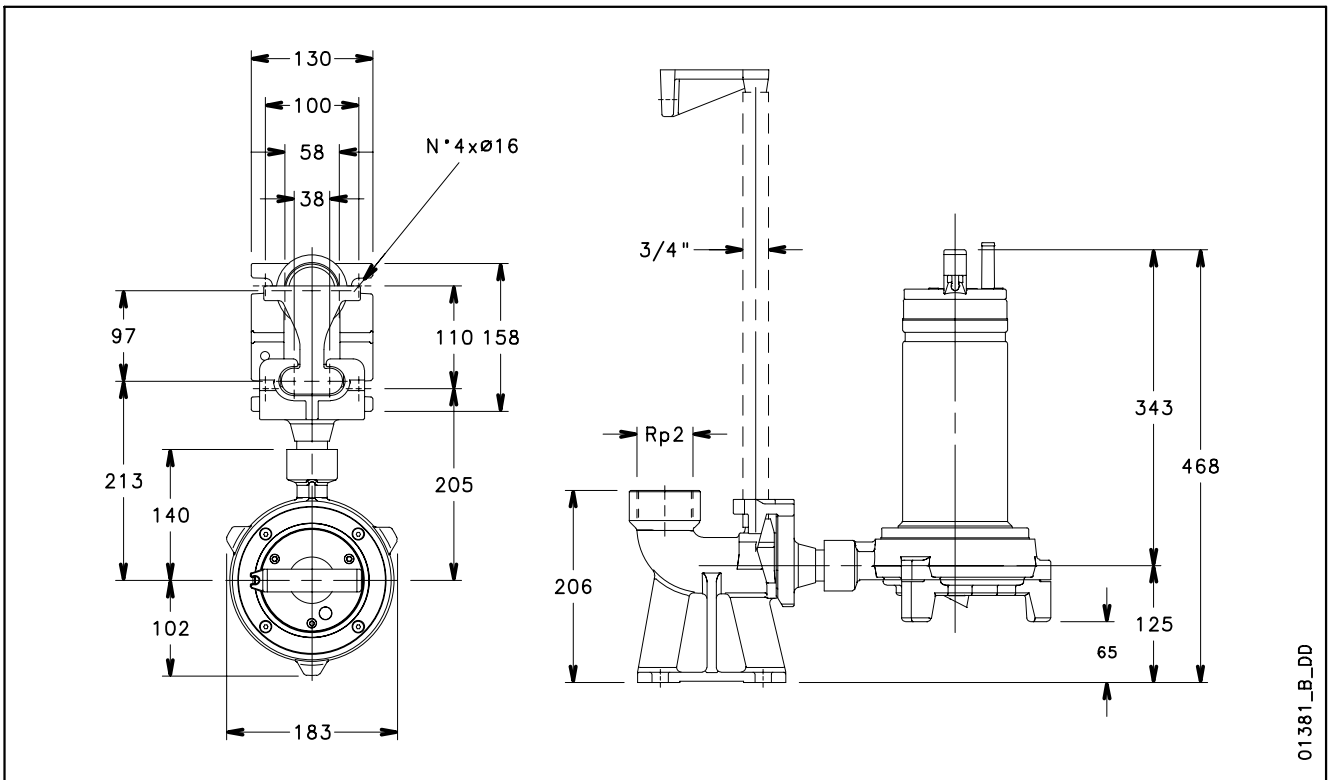
**DOMO SERIES  
INSTALLATION WITH SD LOWERING DEVICE**



**DOMO GRI SERIES  
DIMENSIONS AND WEIGHTS AT 60 Hz**



**INSTALLATION WITH SD LOWERING DEVICE**







## Submersible Electric Pumps for drainage of clean and slightly dirty water

Drainage pumps with up to 21 metres head and up to 300 l/min (18 m<sup>3</sup>/h) delivery. This range consists of three pumps with up to 0,8 kW rated power.

### DN Series 60 Hz



- Maximum dimension of **suspended solids: 5 mm.**
- **Motor** in a dielectric non-toxic **oil bath**, which ensures the lubrication of the ball bearings and a more efficient cooling.
- **Power cord: H07RN-F.**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 155°C (F).**
- **IPX8 protection.**
- **Maximum immersion depth: 5 m.**
- **Versions:**
  - Single-phase: 220-230V, 60Hz, 2 poles.
  - Three-phase: 220-230V, 60Hz, 2 poles. 380-400V, 60Hz, 2 poles.
- **The single-phase versions** feature:
  - **capacitor** housed in a box on the power cord + 1,5 m. power cord with plug.
  - **thermal overload protection** to stop pump supply in case of overheating.
- CG versions (single-phase with pre-assembled float switch), 50 Hz single-phase and three-phase versions, versions with various power cord lengths and various plugs are available on request.

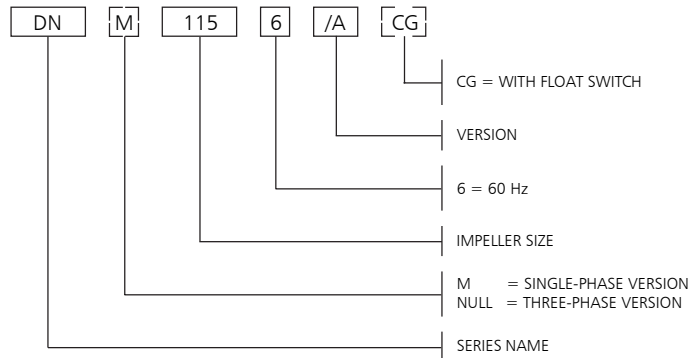
### APPLICATIONS

- Draining of flooded excavations and marshy ground.
- Irrigation from rainwater resevoirs, ditches, ponds and watercourses.

### SPECIFICATIONS

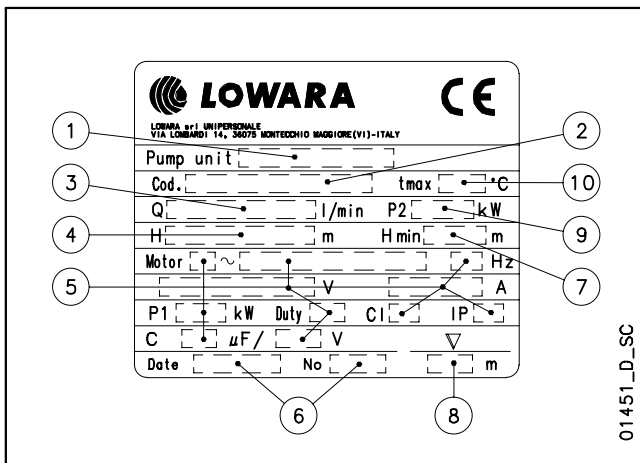
- **Maximum liquid temperature:**
  - **50°C** with fully submerged pump.
  - **25°C** with partially submerged pump.
- Open **impeller** with **abrasion-resistant** rubber coating.
- **Mechanical seal** protected by **sand labyrinth.**

## DN SERIES IDENTIFICATION CODE



EXAMPLE : DNM 1156/A  
 DN Series Electric pump, impeller size 115,  
 60 Hz version, single-phase, /A version.

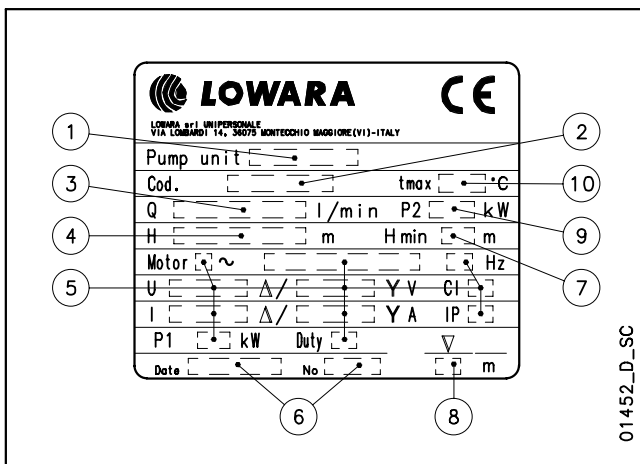
### SINGLE-PHASE RATING PLATE



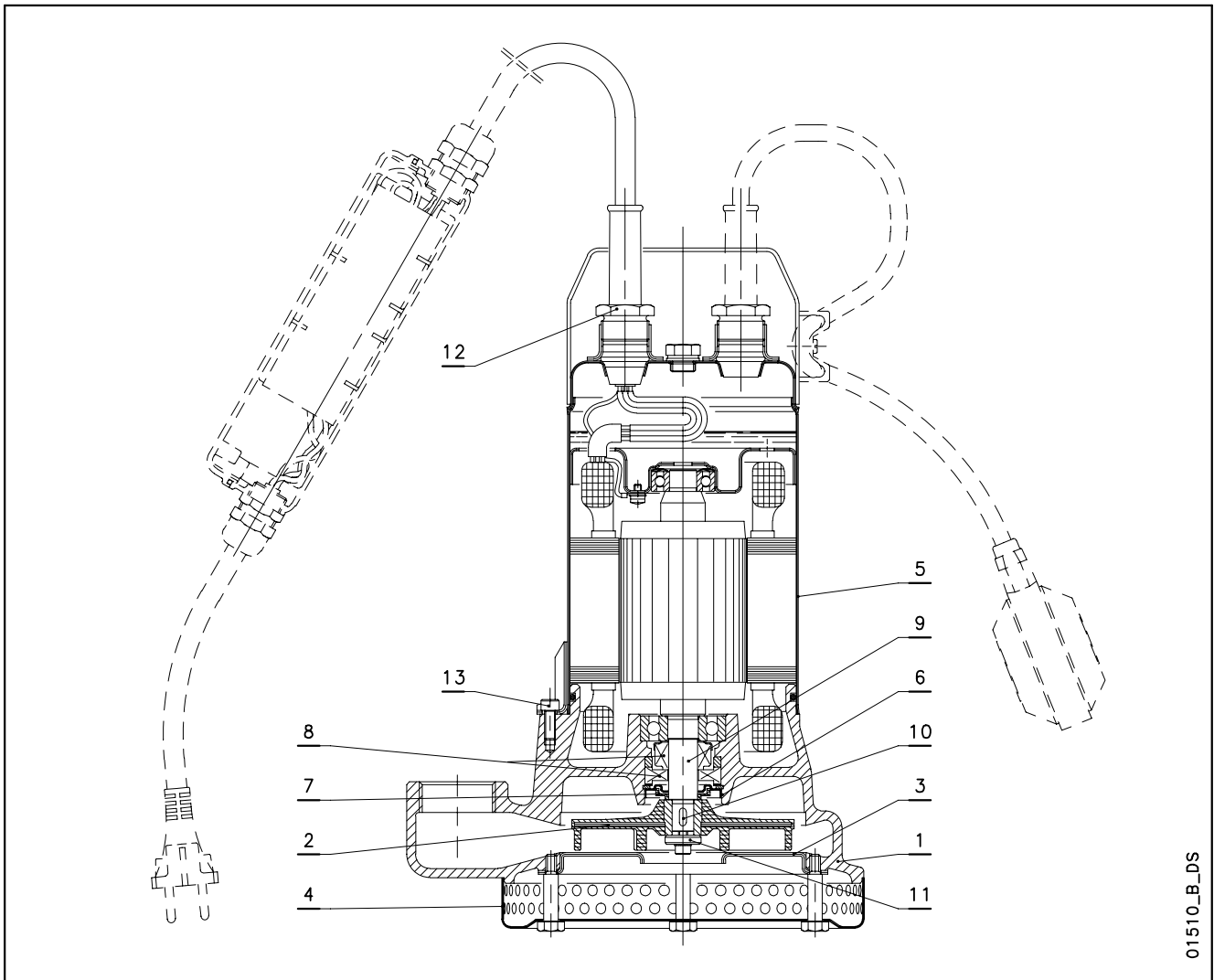
### LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacture and serial number
- 7 - Minimum head
- 8 - Maximum immersion depth
- 9 - Rated output
- 10 - Maximum liquid temperature

### THREE-PHASE RATING PLATE

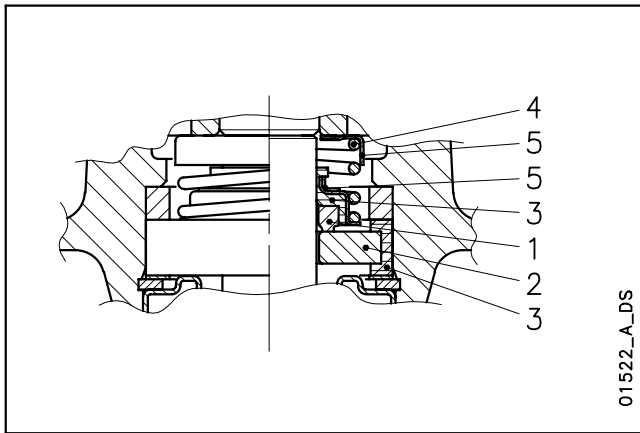


**DN SERIES**  
**LIST OF MODELS AND TABLE OF MATERIALS**



REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-200(JL1030)	ASTM Class 25
2	Impeller	Steel + Nitrile Rubber XNBR		
3	Wearing flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Suction strainer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Labyrinth cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	Labyrinth insert	NBR (standard version)		
8	Mechanical seal	Carbon / Ceramic Alumina / NBR (standard version)		
9	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Washer	Stainless steel		AISI 303
12	Cable gland	Brass		
13	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

## DN SERIES MECHANICAL SEAL



### LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Carbon	P : NBR	F : AISI 304
V : Ceramic Alumina		

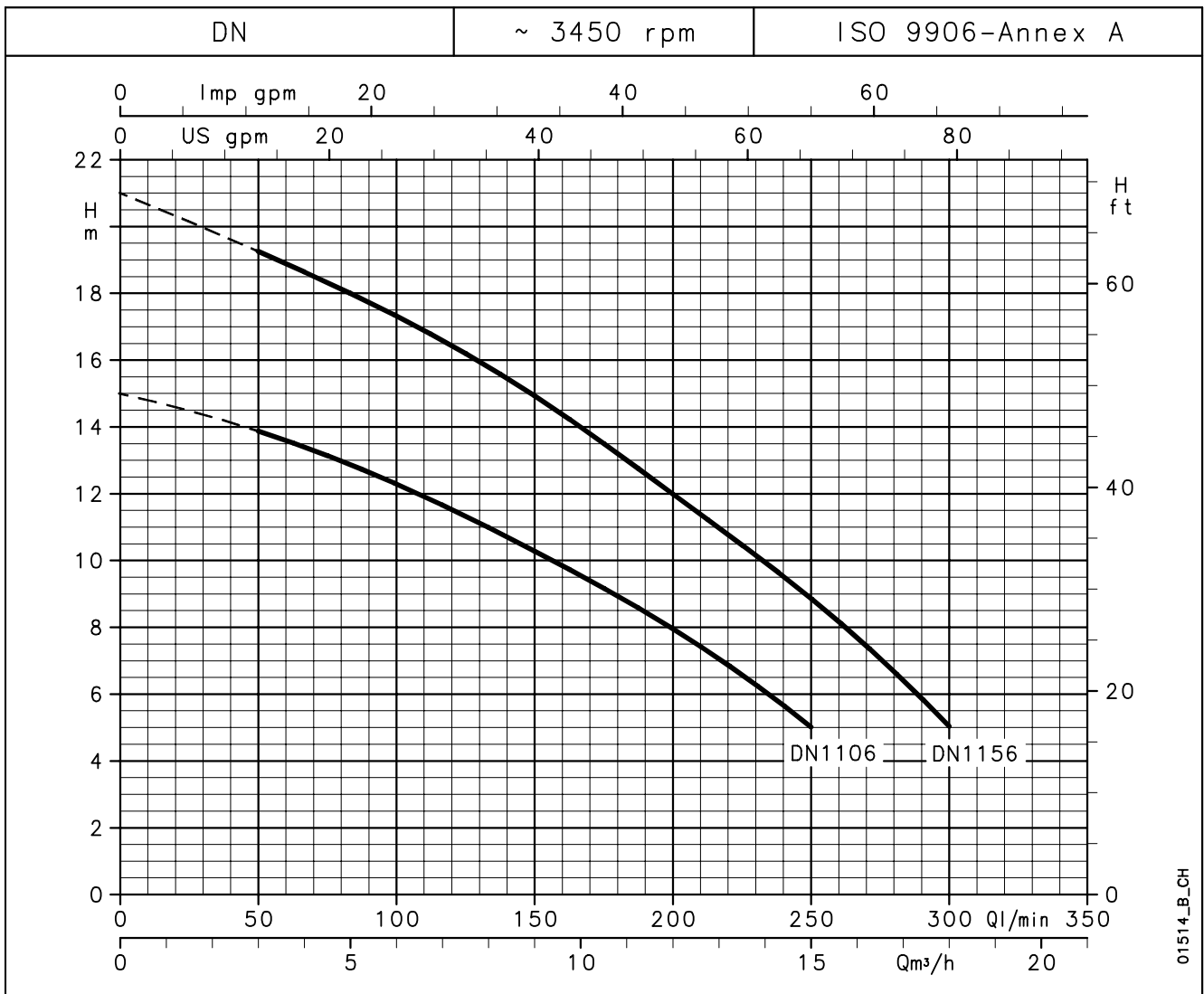
dn-dl-dlv\_ten-mec-en\_c\_tm

### SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
<b>STANDARD MECHANICAL SEAL</b>						
BVPFF	B	V	P	F	F	0 +50

dn-dl-dlv\_tipi-ten-mec-en\_b\_tc

## DN SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY									
			l/min	50	75	100	125	150	175	200	250	300
			m <sup>3</sup> /h	3	4,5	6	7,5	9	10,5	12	15	18
		H = TOTAL HEAD METERS COLUMN OF WATER										
DNM1106 - DN1106	0,6	0,8	15	13,8	13,1	12,3	11,3	10,3	9,2	8	5	-
DNM1156 - DN1156	0,8	1	21,0	19,5	18,3	17,3	16,2	14,9	13,5	12	8,9	5

These performances are valid for liquids with density  $\rho =$

dn-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

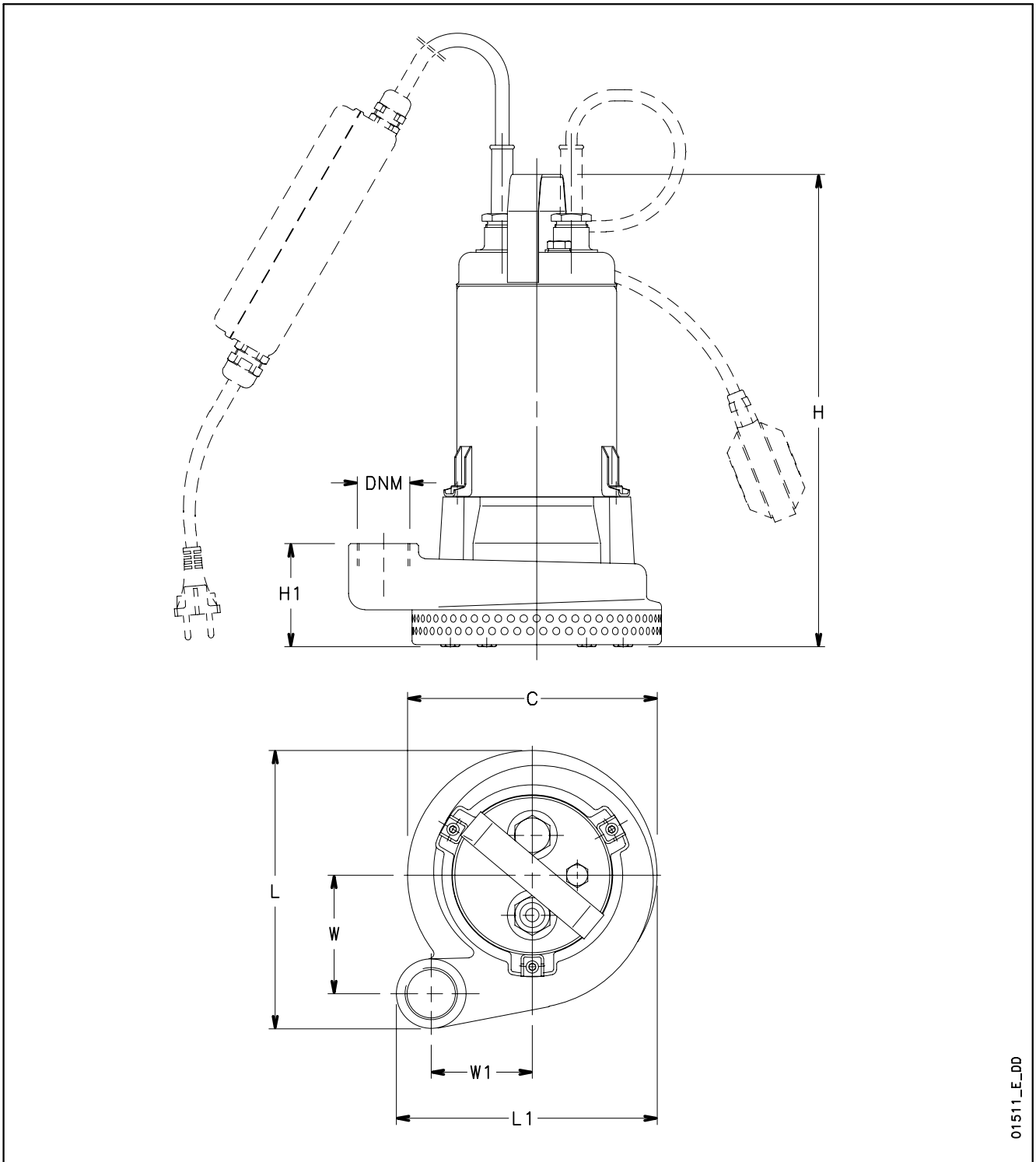
PUMP TYPE	INPUT POWER*	INPUT CURRENT*	CAPACITOR
SINGLE-PHASE		220-230 V	
	kW	A	$\mu$ F / 450 V
DNM 1106	1,08	5,12	25
DNM 1506	1,45	6,74	25

PUMP TYPE	INPUT POWER*	INPUT CURRENT*	INPUT CURRENT*
THREE-PHASE		220-230 V	380-400 V
	kW	A (1)	A
DN 1106	1,00	3,19	1,84
DN 1506	1,46	4,36	2,52

\*Maximum value in specified range  
(1) Available on request

dn-2p60-en\_b\_te

**DN SERIES  
DIMENSIONS AND WEIGHTS AT 60 Hz**



PUMP TYPE	DIMENSIONS (mm)							DNM	WEIGHT kg
	C	H	H1	L	L1	W	W1		
DNM1106 - DN1106	Ø 200	380	81	223	209	95	81	Rp 1¼	18,5
DNM1156 - DN1156	Ø 200	380	81	223	209	95	81	Rp 1¼	19,5

## Submersible Electric Pumps for pumping sewage

The DL series electric pumps come with single-channel or Vortex impeller (DLV), and are designed to handle solids-laden wastewater, with up to 22 m head and 42 m<sup>3</sup>/h delivery. 0,6 kW to 1,5 kW rated power. Solids handled up to 50 mm in diameter.

### DL Series 60 Hz



#### APPLICATIONS

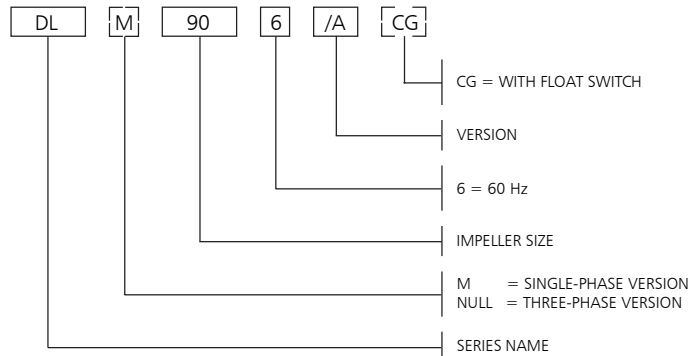
- Pumping of sewage with suspended solids and filaments.
- Emptying of sumps, septic tanks and wastewater discharge tanks.
- Draining of flooded excavations and marshy ground.

#### SPECIFICATIONS

- **Maximum liquid temperature:**
  - 50°C with fully submerged pump.
  - 25°C with partially submerged pump.
- **Mechanical seal** protected by **sand labyrinth**.
- Maximum dimension of **suspended solids:**
  - 45 mm for **DL806, DL906, DL VORTEX6**.
  - 50 mm for **DL1096, DL1256, DLV1006, DLV1156**.
- **Motor** in a dielectric non-toxic **oil bath**, which ensures the lubrication of the ball bearings and a more efficient cooling.

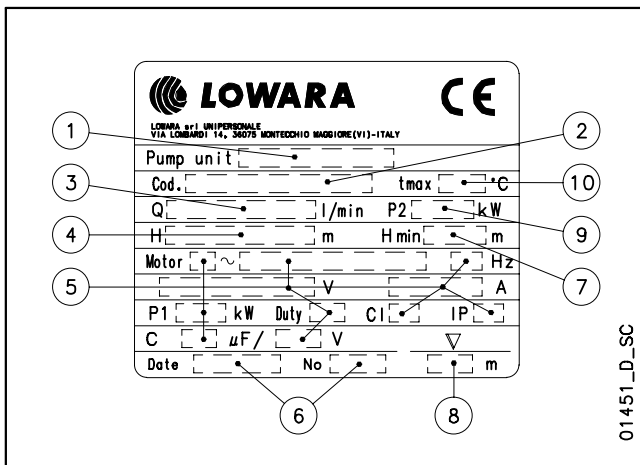
- **Power cord: H07RN-F.**
  - single-phase: with plug.
  - three-phase: without plug.
- **Insulation class 155°C (F).**
- **IPX8 protection.**
- **Maximum immersion depth: 5 m.**
- **Versions:**
  - Single-phase: 220-230V, 60Hz, 2 poles.
  - Three-phase: 220-230V, 60Hz, 2 poles. 380-400V, 60Hz, 2 poles.
- **The single-phase versions** feature:
  - **capacitor** housed in a box on the power cord + 1,5 m. power cord with plug.
  - **thermal overload protection** to stop pump supply in case of overheating.
- CG versions (single-phase with pre-assembled float switch), 50 Hz single-phase and three-phase versions, versions with various power cord lengths and various plugs are available on request.

## DL - DLV SERIES IDENTIFICATION CODE



EXAMPLE : DLM 906/A  
DL Series electric pump, impeller size 90,  
60 Hz version, single-phase, /A version.

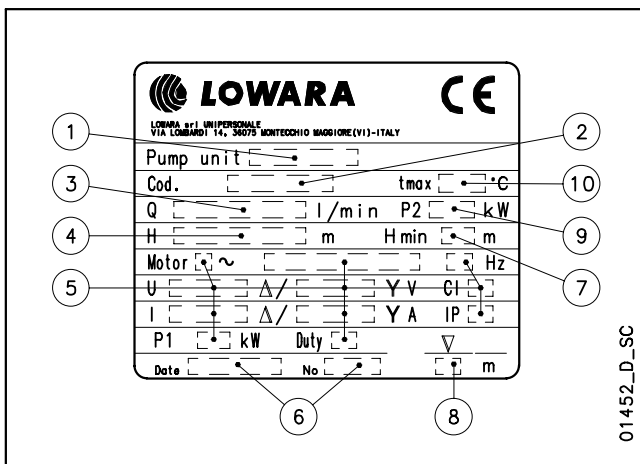
## SINGLE-PHASE RATING PLATE



## LEGEND

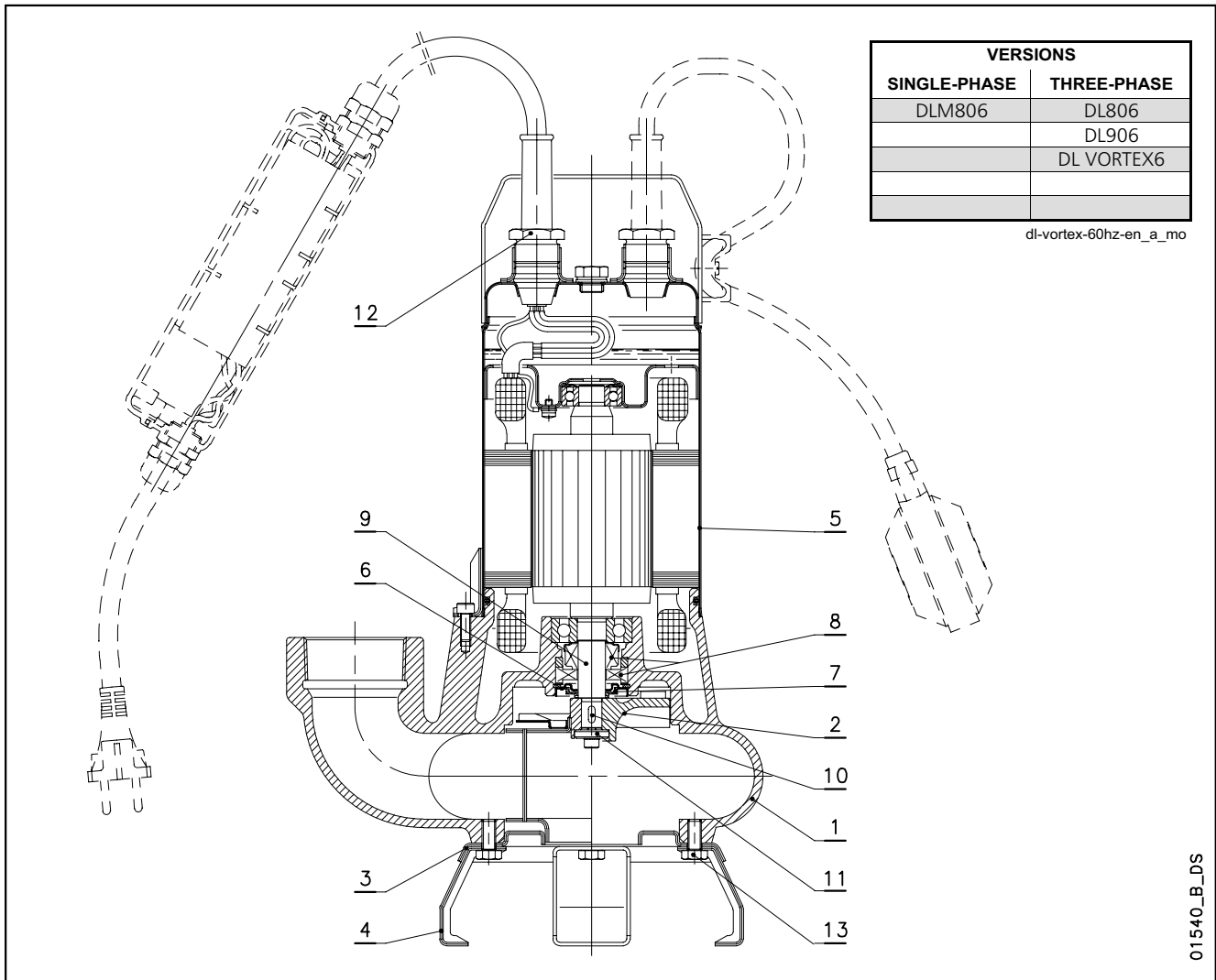
- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacture and serial number
- 7 - Minimum head
- 8 - Maximum immersion depth
- 9 - Rated output
- 10 - Maximum liquid temperature

## THREE-PHASE RATING PLATE





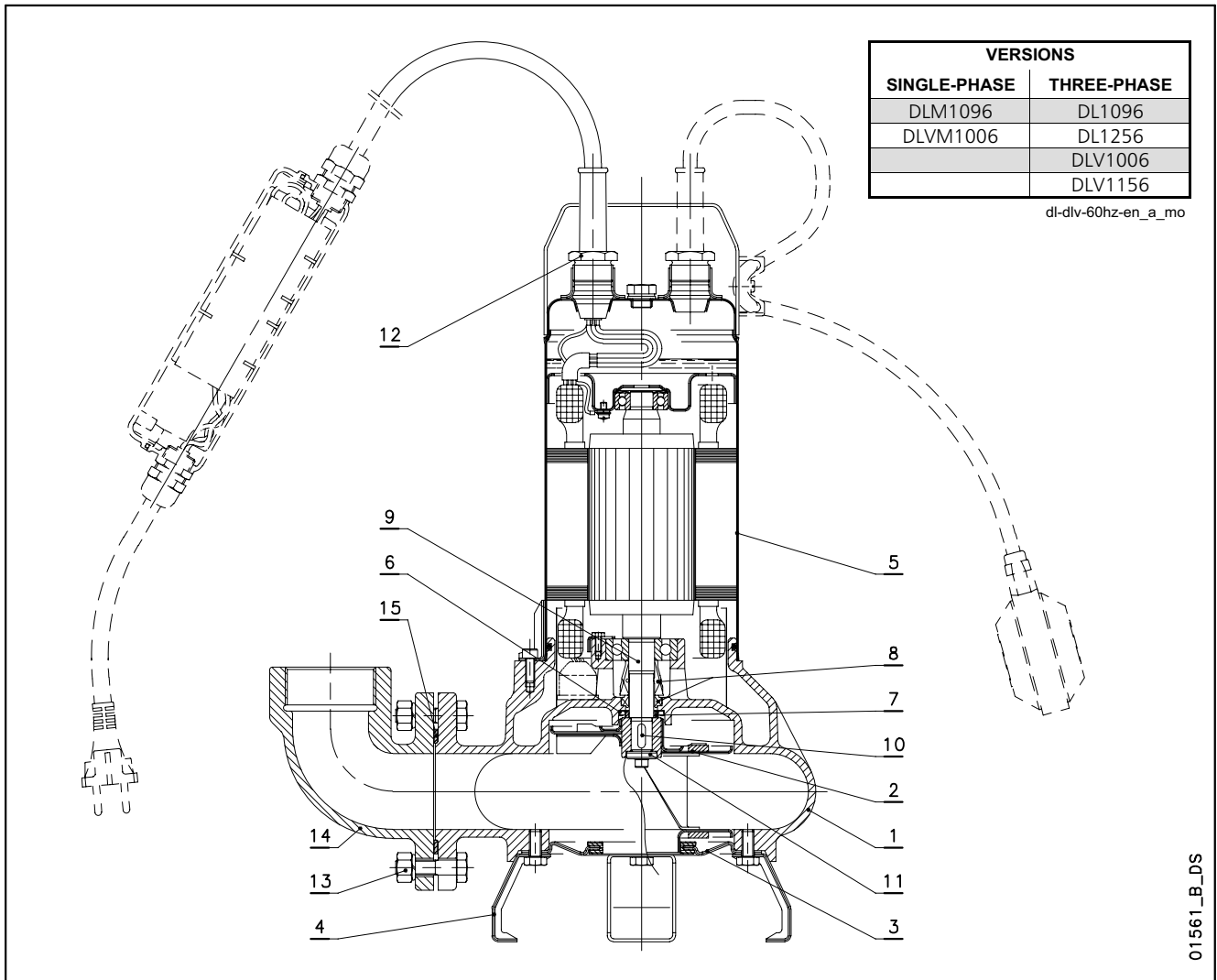
## DL-VORTEX SERIES LIST OF MODELS AND TABLE OF MATERIALS



REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-200(JL1030)	ASTM Class 25
2	Vortex impeller	Cast iron	EN 1561-GJL-200(JL1030)	ASTM Class 25
	Single-channel impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Suction flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Support foot	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Labyrinth cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	Labyrinth insert	NBR (standard version)		
8	Mechanical seal	Carbon / Ceramic Alumina / NBR (standard version)		
9	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Washer	Stainless steel		AISI 303
12	Cable gland	Brass		
13	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304

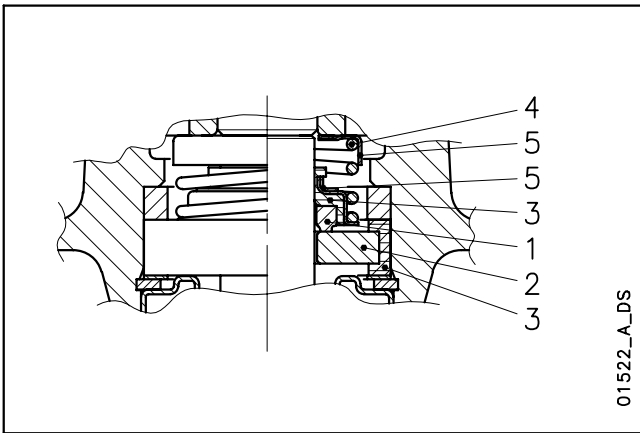
dl-vortex-en\_b\_tm

## DL-DLV SERIES LIST OF MODELS AND TABLE OF MATERIALS



REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-200(JL1030)	ASTM Class 25
2	Vortex impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
	Single-channel impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Suction flange	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Support foot	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Motor casing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	V-RING Cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
7	V16A Seal ring	NBR (standard version)		
8	Mechanical seal	Carbon / Ceramic Alumina / NBR (standard version)		
9	Shaft end	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Key	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Washer	Stainless steel		AISI 303
12	Cable gland	Brass		
13	Screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
14	Delivery connection	Cast iron	EN 1561-GJL-200(JL1030)	ASTM Class 25
15	Delivery connection gasket	Nitrile rubber		

**DL806 - DL906 - DL1056 - DL VORTEX6 SERIES  
MECHANICAL SEAL**



**LIST OF MATERIALS**

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Carbon	P : NBR	F : AISI 304
V : Ceramic Alumina		

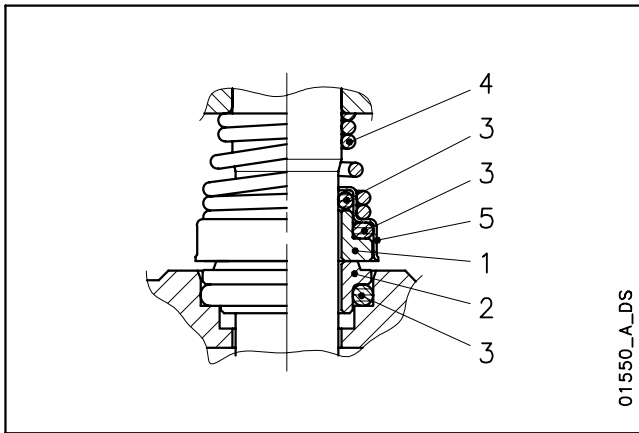
dn-dl-dlv\_ten-mec-en\_c\_tm

**SEAL TYPES**

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
<b>STANDARD MECHANICAL SEAL</b>						
BVPFF	B	V	P	F	F	0 +50

dn-dl-dlv\_tipi-ten-mec-en\_b\_tc

## DL1096 - DL1256 - DLV1006 - DLV1156 SERIES MECHANICAL SEAL



### LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Carbon	P : NBR	G : AISI 316
U <sub>3</sub> : Tungsten Carbide	V : FPM	F : AISI 304
V : Ceramic Alumina		

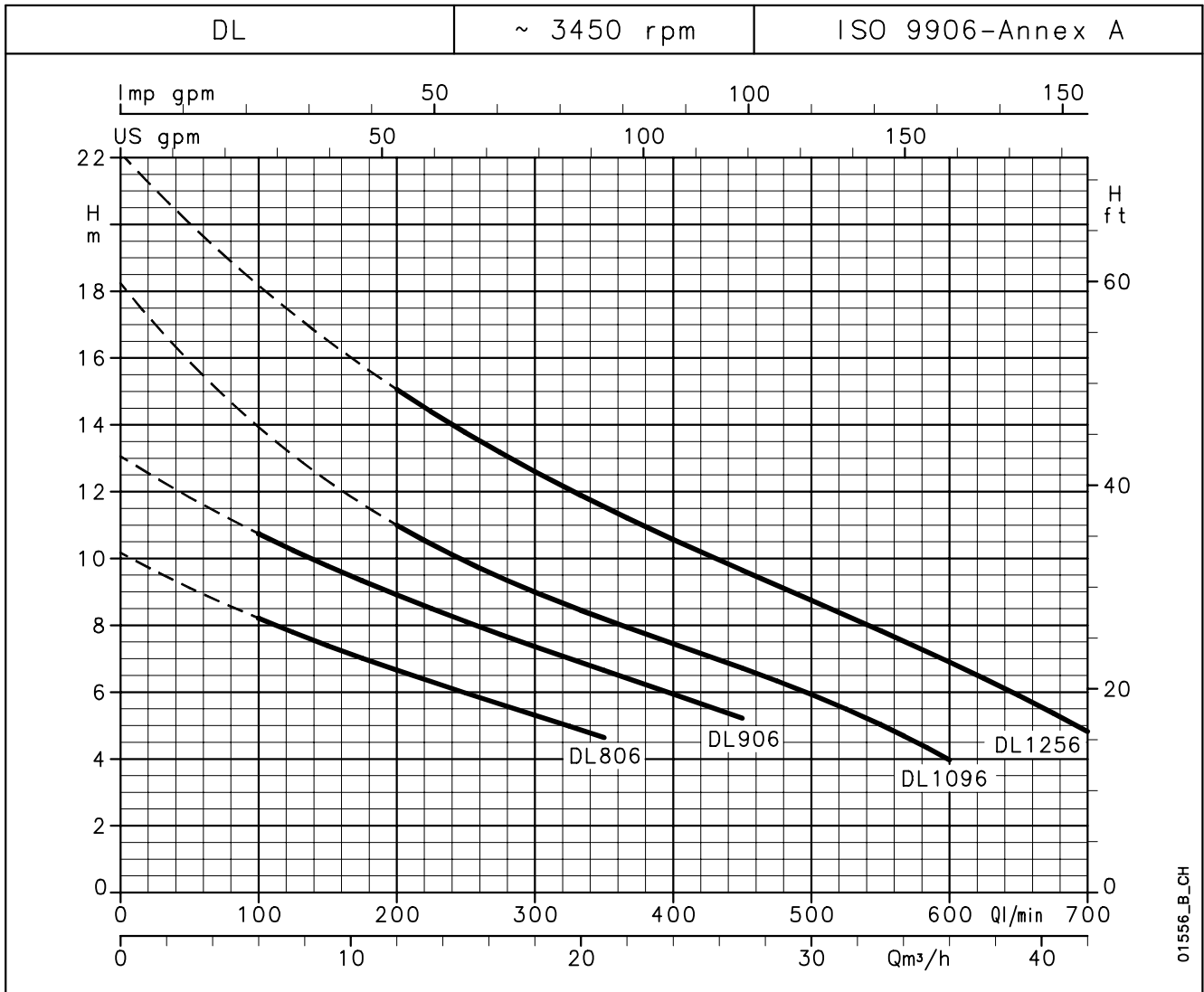
dl-dlv\_ten-mec-en\_a\_tm

### SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
<b>STANDARD MECHANICAL SEAL</b>						
VBPGF	V	B	P	G	F	0 +50
<b>OTHER MECHANICAL SEAL TYPES</b>						
U <sub>3</sub> U <sub>3</sub> VFF	U <sub>3</sub>	U <sub>3</sub>	V	F	F	0 +50

dl-dlv\_tipi-ten-mec-en\_b\_tc

## DL SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY											
			l/min	0	100	150	200	300	350	400	450	500	600	700
			m <sup>3</sup> /h	0	6	9	12	18	21	24	27	30	36	42
H = TOTAL HEAD METERS COLUMN OF WATER														
DLM806 - DL806	0,6	0,8	10,2	8,2	7,4	6,7	5,3	4,6	-	-	-	-	-	-
DL906	1,1	1,5	13,1	10,7	9,8	8,9	7,4	6,6	5,9	5,2	-	-	-	-
DLM1096 - DL1096	1,1	1,5	18,2	-	-	11	9	8,2	7,5	6,7	5,9	4	-	-
DL1256	1,5	2	22,1	-	-	15,1	12,6	11,5	10,6	9,6	8,7	6,9	4,8	-

These performances are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$

dl-2p60-en\_a\_th

### ELECTRICAL DATA TABLE

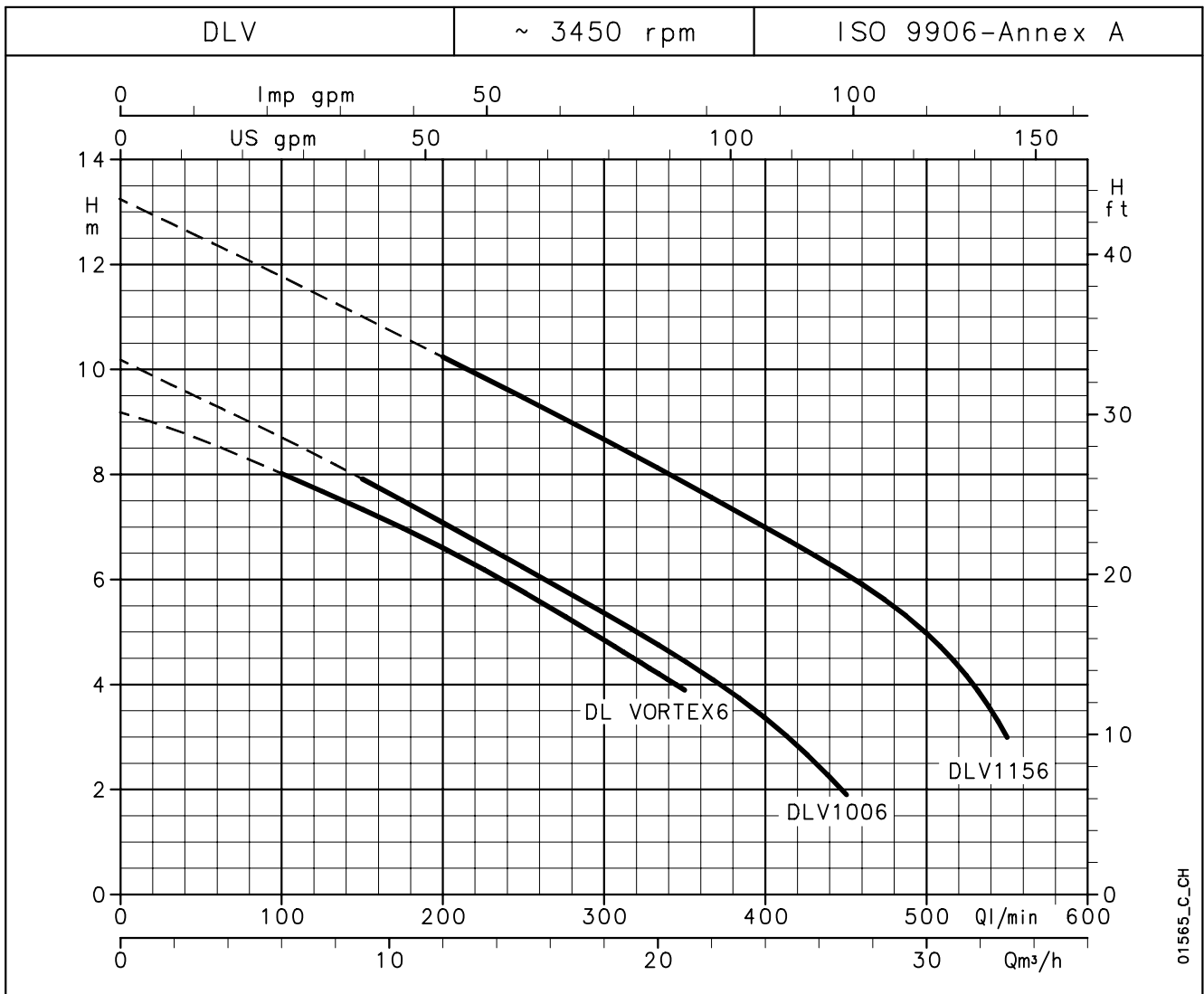
PUMP TYPE	INPUT POWER*	INPUT CURRENT* 220-230 V	CAPACITOR
SINGLE-PHASE			
DLM806	1,13	5,31	25
-	-	-	-
DLM1096	1,72	7,93	35
-	-	-	-

PUMP TYPE	INPUT POWER*	INPUT CURRENT* 220-230 V	INPUT CURRENT* 380-400 V
THREE-PHASE			
DL806	1,05	3,32	1,92
DL906	1,33	4,02	2,32
DL1096	1,63	4,92	2,84
DL1256	1,95	5,77	3,33

\*Maximum value in specified range

dl-2p60-en\_b\_te

## DLV SERIES OPERATING CHARACTERISTICS AT 60 Hz



### HYDRAULIC PERFORMANCE TABLE

PUMP TYPE	RATED POWER		Q = DELIVERY											
			l/min	0	100	150	200	250	300	350	400	450	500	550
			m <sup>3</sup> /h	0	6	9	12	15	18	21	24	27	30	33
	kW	HP	H = TOTAL HEAD METERS COLUMN OF WATER											
DL VORTEX6	-	1,1   1,5	9,3	8	7,3	6,6	5,8	4,8	3,9	-	-	-	-	
DLVM1006 - DLV1006	-	1,1   1,5	10,0	-	8	7,1	6,2	5,4	4,4	3,4	2	-	-	
DLV1156	-	1,5   2	13,0	-	-	10,2	9,5	8,7	7,8	7	6,1	5	3	

These performances are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$

dlv-2p60-en\_b\_th

### ELECTRICAL DATA TABLE

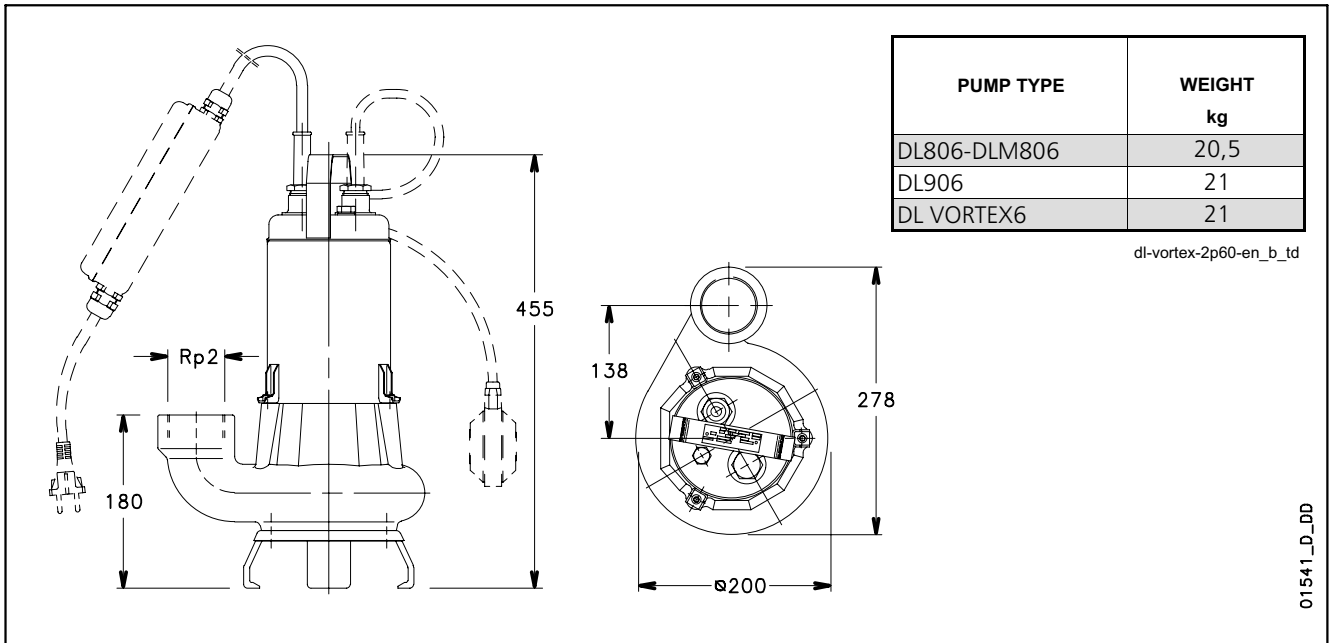
PUMP TYPE	INPUT POWER*	INPUT CURRENT* 220-230 V	CAPACITOR
SINGLE-PHASE			
-	-	-	-
DLVM1006	1,71	7,91	35
-	-	-	-

PUMP TYPE	INPUT POWER*	INPUT CURRENT* 220-230 V	INPUT CURRENT* 380-400 V
THREE-PHASE			
DL VORTEX6	1,65	4,85	2,8
DLV1006	1,62	4,90	2,83
DLV1156	2,23	6,49	3,75

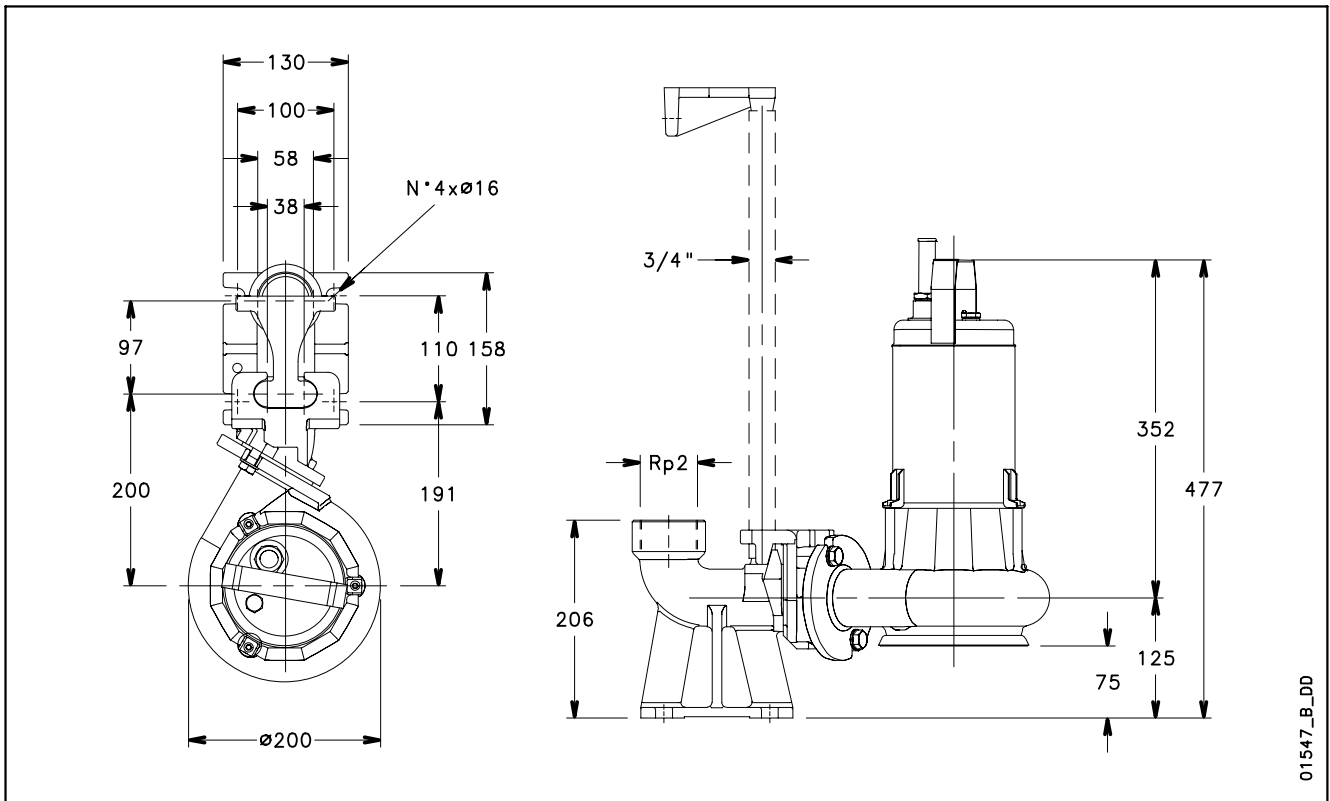
\*Maximum value in specified range

dlv-2p60-en\_b\_te

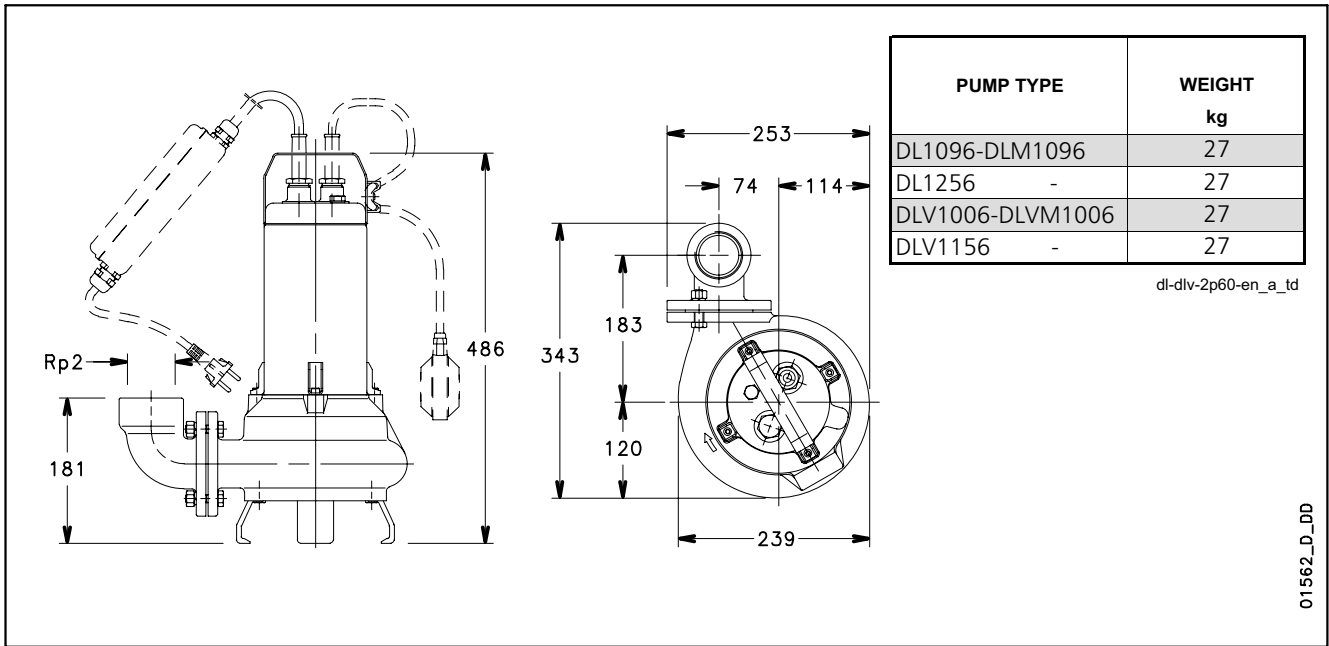
## DL - VORTEX SERIES DIMENSIONS AND WEIGHTS AT 60 Hz



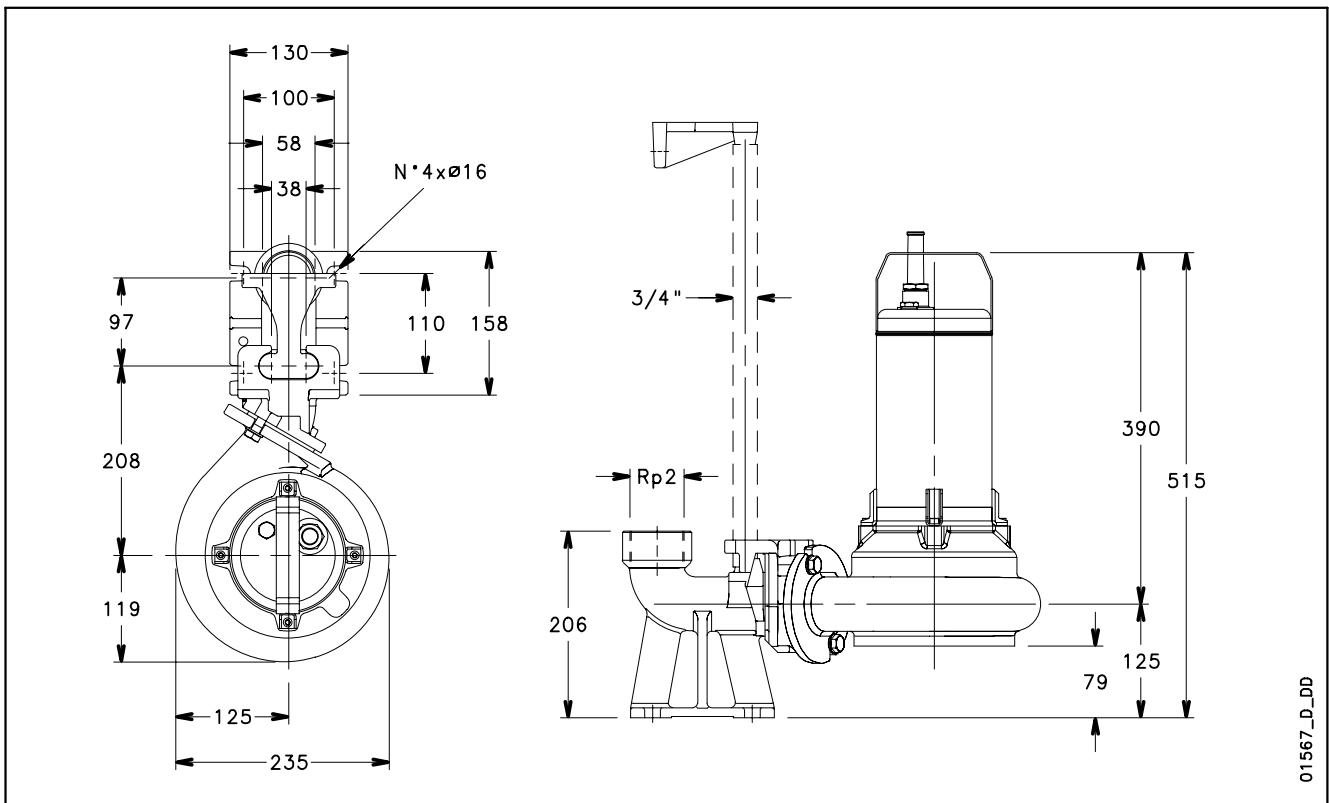
## DLF SERIES INSTALLATION WITH SD LOWERING DEVICE



**DL - DLV SERIES  
DIMENSIONS AND WEIGHTS**



**DL-DLV SERIES  
INSTALLATION WITH SD LOWERING DEVICE**

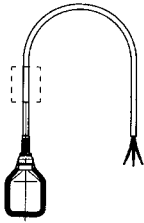




# **TECHNICAL APPENDIX**

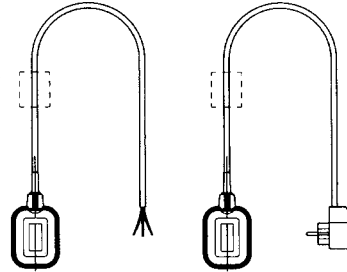
## LEVEL REGULATORS

SMALL MODEL  
(floating)



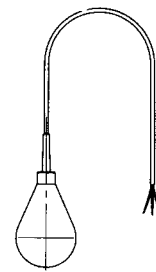
For single function (draining).  
Cable lengths 1.5, 5, 10 m.  
Counterweight available on request for versions with 5 and 10 m cable.

KEY MODEL  
(floating)



For dual function (draining/filling).  
Cable lengths: 1.5, 5, 10, 20 m.  
Counterweight available on request for versions with 5 and 10 m cable.  
Version with plug and socket for single-phase pumps up to 1 kW.

RDN-10 MODEL  
(tilting)



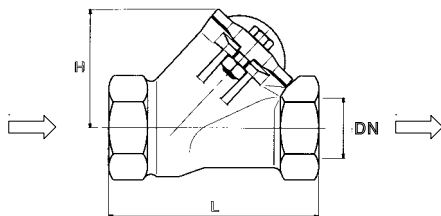
For solids-laden water.  
Cable lengths:  
10, 13, 15, 20, 30, 50 m.

## BALL CHECK VALVES FOR WASTEWATER

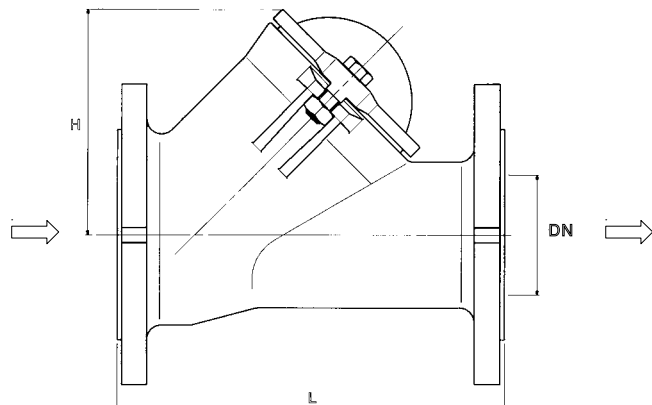
No-clog, maximum reliability, low flow resistance.  
Maximum operating pressure: 10 bar.  
Maximum temperature: 85°C.  
Horizontal and vertical operating position.

MODEL	DIMENSIONS (mm)			WEIGHT kg
	Ø BALL	L	H	
Rp 1 1/4	48	140	80	2
Rp 1 1/2	50	140	80	4
Rp 2	60	200	98	5,5
DN 65	95	230	148	12
DN 80	95	260	148	13
DN 100	120	300	182	18
DN 150	175	400	251	37,5
DN 200	240	500	333	70
DN 250	300	600	406	128

Valv-palla-en\_a\_td

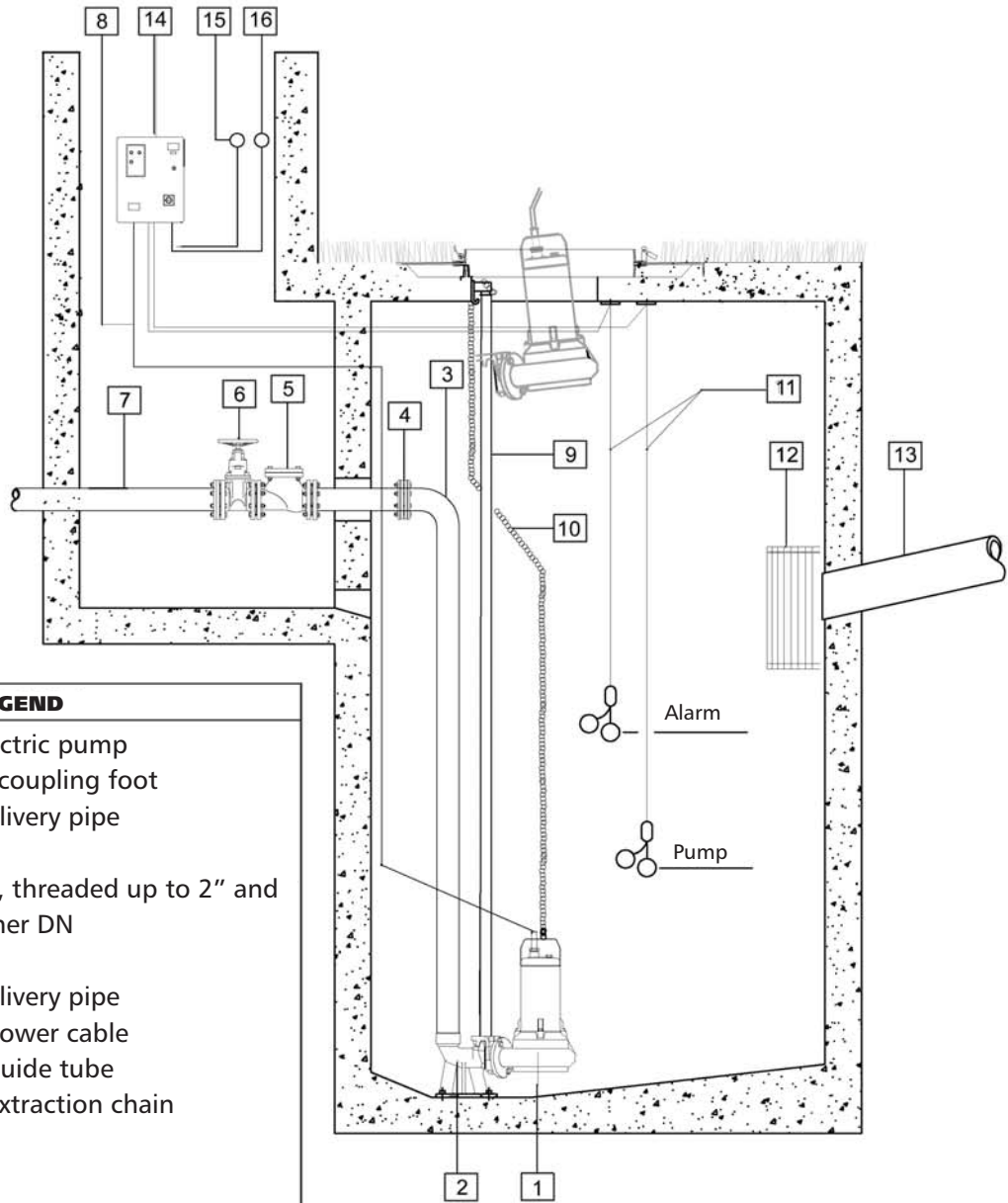


Rp 1 1/4 - 1 1/2 - 2 MODEL

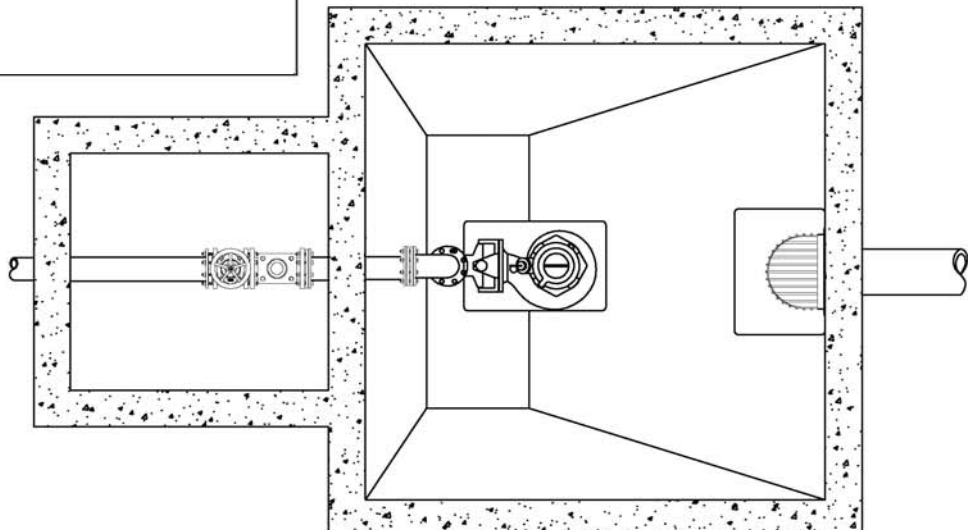


65 - 80 - 100 - 150 - 200 - 250 MODEL

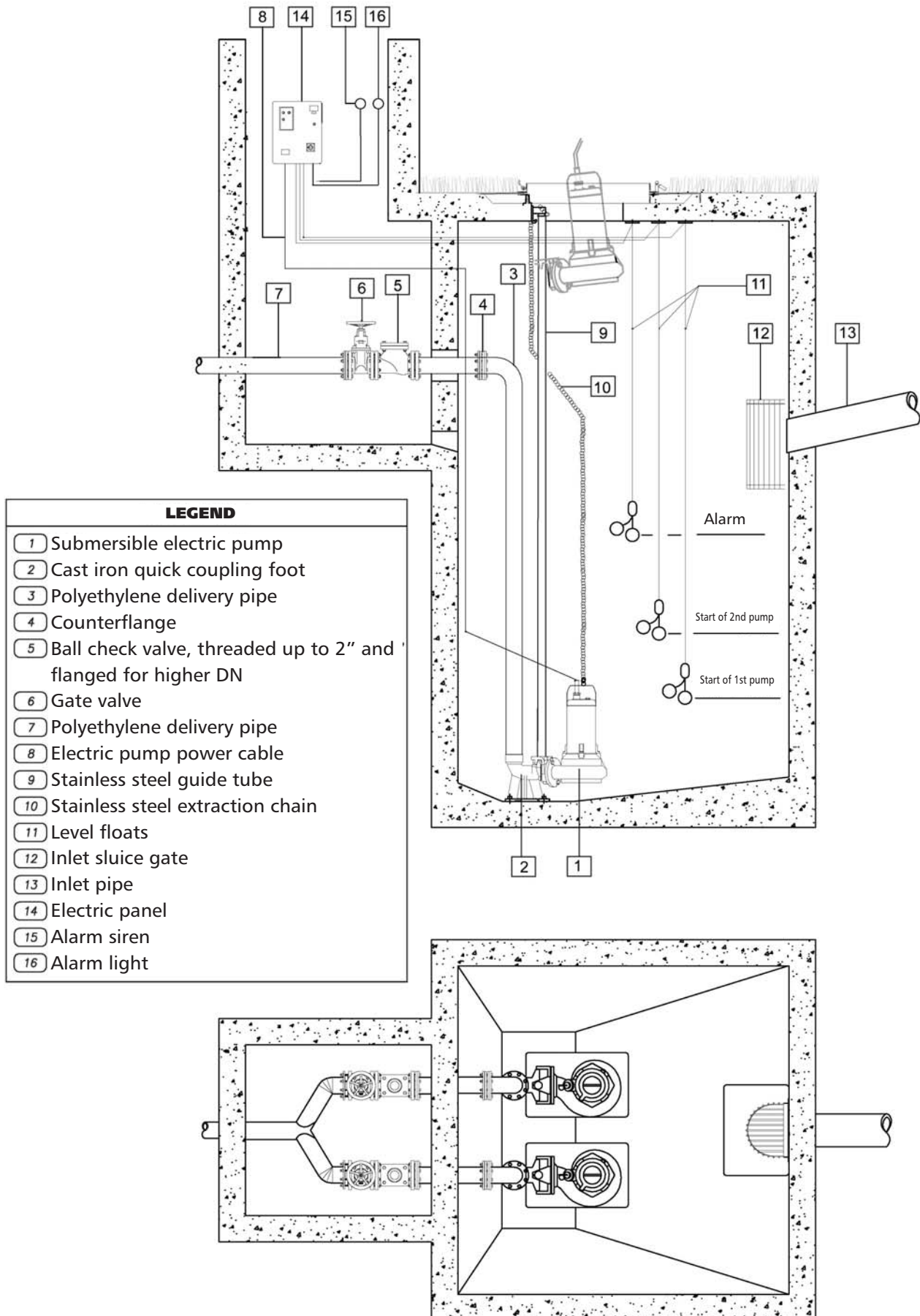
**EXAMPLE OF INSTALLATION OF SINGLE-PUMP SYSTEM**



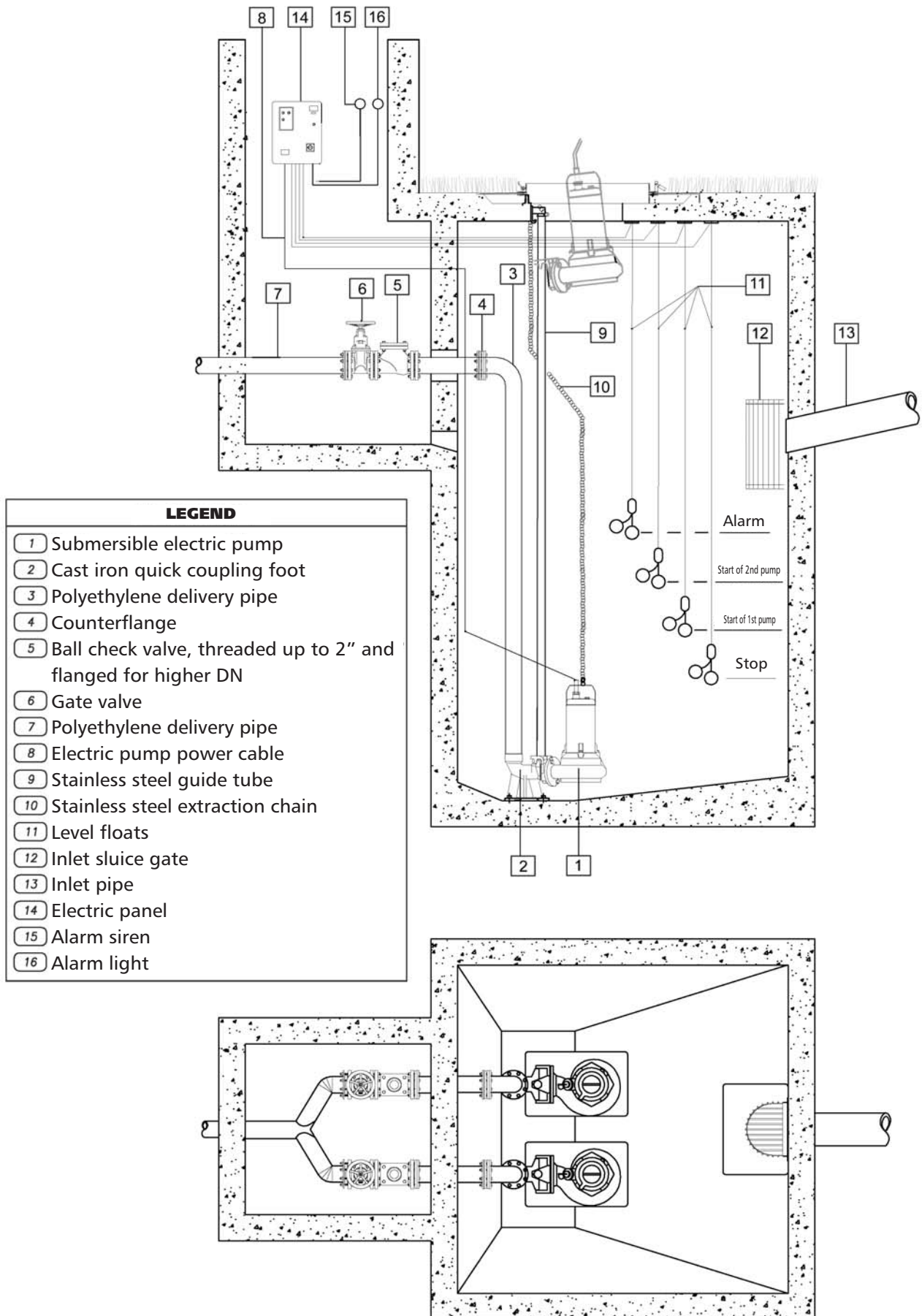
LEGEND	
1	Submersible electric pump
2	Cast iron quick coupling foot
3	Polyethylene delivery pipe
4	Counterflange
5	Ball check valve, threaded up to 2" and flanged for higher DN
6	Gate valve
7	Polyethylene delivery pipe
8	Electric pump power cable
9	Stainless steel guide tube
10	Stainless steel extraction chain
11	Level floats
12	Inlet sluice gate
13	Inlet pipe
14	Electric panel
15	Alarm siren
16	Alarm light



**EXAMPLE OF INSTALLATION OF TWO-PUMPS SYSTEM WITH THREE LEVEL REGULATORS**



**EXAMPLE OF INSTALLATION OF TWO-PUMPS SYSTEM WITH FOUR LEVEL REGULATORS**



# FLOW RESISTANCE

## TABLE OF FLOW RESISTANCE IN 100 m OF A NEW AND STRAIGHT CAST IRON PIPELINE

FLOW RATE		NOMINAL DIAMETER IN mm AND INCHES																			
m <sup>3</sup> /h	l/min.	15 1/2"	20 3/4"	25 1"	32 1 1/4"	40 1 1/2"	50 2"	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	175 7"	200 8"	250 10"	300 12"	350 14"	400 16"			
0,6	10	V hr	0,94 11,8	0,53 2,82	0,34 1	0,21 0,25															
0,9	15	V hr	1,42 25,1	0,8 6,04	0,51 2,16	0,31 0,55															
1,2	20	V hr	1,89 43,1	1,06 10,4	0,68 3,72	0,41 0,95	0,27 0,31														
1,5	25	V hr	2,36 64,5	1,33 15,8	0,85 5,68	0,52 1,47	0,33 0,47														
1,8	30	V hr	2,83 92	1,59 22,3	1,02 8	0,62 2,09	0,4 0,66														
2,1	35	V hr	3,3 123	1,86 29,8	1,19 10,8	0,73 2,81	0,46 0,89	0,3 0,31													
2,4	40	V hr	3,77 164	2,12 38,2	1,36 13,8	0,83 2,65	0,53 1,15	0,34 0,4													
3	50	V hr	4,72 246	2,65 58,2	1,7 21,5	1,04 5,6	0,66 1,75	0,42 0,61													
3,6	60	V hr		3,18 82	2,04 30	1,24 8	0,8 2,48	0,51 0,86													
4,2	70	V hr		3,72 110	2,38 40	1,45 10,8	0,93 3,33	0,59 1,14													
4,8	80	V hr		4,25 141	2,72 51,5	1,66 13,9	1,06 4,3	0,68 1,46													
5,4	90	V hr			3,06 64	1,87 17,5	1,19 5,4	0,76 1,82	0,45 0,46												
6	100	V hr			3,4 79	2,07 21,4	1,33 6,6	0,85 2,22	0,5 0,56												
7,5	125	V hr			4,25 120	2,59 33	1,66 10	1,06 3,4	0,63 0,86												
9	150	V hr				3,11 47	1,99 14,2	1,27 4,74	0,75 1,21	0,5 0,43											
10,5	175	V hr				3,63 63	2,32 19	1,49 6,3	0,88 1,63	0,58 0,57											
12	200	V hr				4,15 82	2,65 24,5	1,7 8,1	1,01 2,1	0,66 0,74											
15	250	V hr				5,18 126	3,32 37,5	2,12 12,3	1,26 3,2	0,83 1,12	0,53 0,36										
18	300	V hr				3,98 53	2,55 17,3	1,51 4,5	1 1,58	0,64 0,51											
24	400	V hr				5,31 92	3,4 29,5	2,01 7,8	1,33 2,7	0,85 0,89											
30	500	V hr				6,63 140	4,25 44,8	2,51 12	1,66 4,13	1,06 1,36	0,68 0,48										
36	600	V hr						5,1 63	3,02 16,9	1,99 5,8	1,27 1,93	0,82 0,68									
42	700	V hr						5,94 84	3,52 22,6	2,32 7,8	1,49 2,6	0,95 0,9									
48	800	V hr						6,79 108	4,02 29	2,65 10	1,70 3,35	1,09 1,16	0,75 0,43								
54	900	V hr						7,64 134	4,52 36	2,99 12,5	1,91 4,2	1,22 1,45	0,85 0,54								
60	1000	V hr						5,03 44,5	3,32 15,2	2,12 5,14	1,36 1,76	0,94 0,66									
75	1250	V hr						6,28 68	4,15 23	2,65 7,9	1,70 2,68	1,18 1	0,87 0,48								
90	1500	V hr						7,54 96	4,98 32,6	3,18 11,2	2,04 3,77	1,42 1,42	1,04 0,68								
105	1750	V hr						8,79 129	5,81 43,5	3,72 15	2,38 5,04	1,65 1,9	1,21 0,91	0,93 0,45							
120	2000	V hr						6,63 56	4,25 19,4	2,72 6,5	1,89 2,43	1,39 1,18	1,06 0,58	0,68 0,16							
150	2500	V hr						8,29 85	5,31 30	3,40 9,8	2,36 3,75	1,73 1,79	1,33 0,89	0,85 0,25							
180	3000	V hr						9,95 120	6,37 42	4,08 13,8	2,83 5,3	2,08 2,53	1,59 1,25	1,02 0,35	0,71 0,15						
300	5000	V hr							10,62 124,9	6,79 41,3	4,72 16,74	3,47 7,81	2,65 4,03	1,70 1,34	1,18 0,54	0,87 0,25	0,87 0,13	0,66 0,13			
600	10000	V hr								13,59 161	9,44 65	6,93 30,2	5,31 15,6	3,4 5,16	2,36 2,09	1,73 0,97	1,33 0,5	1,33 0,5	1,33 0,5		
1200	20000	V hr												6,79 20,1	4,72 8,13	3,47 3,8	2,65 3,8	1,70 1,95	1,34 1,95	2,65 1,95	
1800	30000	V hr														7,7 18,07	5,2 8,39	4,0 4,32	4,0 4,32	4,0 4,32	
3000	50000	V hr															11,8 49,5	8,67 23	6,63 11,8	6,63 11,8	
4500	75000	V hr																17,7 110,5	13 51,3	9,9 26,4	9,9 26,4
6000	100000	V hr																	17,33 90,6	13,27 46,6	13,27 46,6



THE FLOW RESISTANCE MUST BE MULTIPLIED BY:

- 0.8 for stainless steel pipes
- 1.25 for slightly rusted steel pipes
- 1.7 for pipes with deposits that reduce the flow section
- 0.7 for aluminium pipes
- 1.3 for fibre-cement pipes

Hr = FLOW RESISTANCE (m/100 m OF PIPELINE)

V = WATER SPEED (m/sec)

**FLOW RESISTANCE IN BENDS, VALVES AND GATES IN cm OF COLUMN OF WATER**

WATER SPEED  m/ ec	SHARP BENDS 					SMOOTH BENDS 					STANDARD GATE VALVES	FOOT VALVES	CHECK VALVES
	a = 30°	a = 40°	a = 60°	a = 80°	a = 90°	$\frac{d}{R} = 0,4$	$\frac{d}{R} = 0,6$	$\frac{d}{R} = 0,8$	$\frac{d}{R} = 1$	$\frac{d}{R} = 1,5$			
0,10	0,03	0,04	0,05	0,07	0,08	0,007	0,008	0,01	0,0155	0,027	0,030	30	30
0,15	0,06	0,07	0,10	0,14	0,17	0,016	0,019	0,024	0,033	0,06	0,033	31	31
0,2	0,11	0,13	0,18	0,26	0,31	0,028	0,033	0,04	0,058	0,11	0,058	31	31
0,25	0,17	0,21	0,28	0,4	0,48	0,044	0,052	0,063	0,091	0,17	0,090	31	31
0,3	0,25	0,30	0,41	0,6	0,7	0,063	0,074	0,09	0,13	0,25	0,13	31	31
0,35	0,33	0,40	0,54	0,8	0,93	0,085	0,10	0,12	0,18	0,33	0,18	31	31
0,4	0,43	0,52	0,71	1,0	1,2	0,11	0,13	0,16	0,23	0,43	0,23	32	31
0,5	0,67	0,81	1,1	1,6	1,9	0,18	0,21	0,26	0,37	0,67	0,37	33	32
0,6	0,97	1,2	1,6	2,3	2,8	0,25	0,29	0,36	0,52	0,97	0,52	34	32
0,7	1,35	1,65	2,2	3,2	3,9	0,34	0,40	0,48	0,70	1,35	0,70	35	32
0,8	1,7	2,1	2,8	4,0	4,8	0,45	0,53	0,64	0,93	1,7	0,95	36	33
0,9	2,2	2,7	3,6	5,2	6,2	0,57	0,67	0,82	1,18	2,2	1,20	37	34
1,0	2,7	3,3	4,5	6,4	7,6	0,7	0,82	1,0	1,45	2,7	1,45	38	35
1,5	6,0	7,3	10	14	17	1,6	1,9	2,3	3,3	6	3,3	47	40
2,0	11	14	18	26	31	2,8	3,3	4,0	5,8	11	5,8	61	48
2,5	17	21	28	40	48	4,4	5,2	6,3	9,1	17	9,1	78	58
3,0	25	30	41	60	70	6,3	7,4	9	13	25	13	100	71
3,5	33	40	55	78	93	8,5	10	12	18	33	18	123	85
4,0	43	52	70	100	120	11	13	16	23	42	23	150	100
4,5	55	67	90	130	160	14	21	26	37	55	37	190	120
5,0	67	82	110	160	190	18	29	36	52	67	52	220	140

- 1) Flow resistance in bends is due to the contraction of the liquid threads resulting from the change of direction: the development of the bends must therefore be included in the length of the pipeline.
- 2) Flow resistance in valves and gates was determined on the basis of practical tests.

## VOLUMETRIC CAPACITY

Litres per minute l/min	Cubic metres per hour m <sup>3</sup> /h	Cubic feet per hour ft <sup>3</sup> /h	Cubic feet per minute ft <sup>3</sup> /min	Imp. gal. per minute Imp. gal./min	US gal. per minute Us gal./min
<b>1,000</b>	0,0600	2,1189	0,0353	0,2200	0,2642
16,6667	<b>1,000</b>	35,3147	0,5886	3,6662	4,4029
0,4719	0,0283	<b>1,000</b>	0,0167	0,1038	<b>0,1247</b>
28,3168	1,6990	60,0000	<b>1,000</b>	6,2288	7,4805
4,5461	0,2728	9,6326	0,1605	<b>1,000</b>	1,2009
3,7854	0,2271	8,0208	0,1337	0,8327	<b>1,000</b>

## PRESSURE AND HEAD

Newton per square metre N/m <sup>2</sup>	kilo Pascal kPa	bar bar	Pound force per square inch psi	metre of water m H <sub>2</sub> O	millimetre of mercury mm Hg
<b>1,000</b>	0,0010	1 x 10 <sup>-5</sup>	1.45 x 10 <sup>-4</sup>	1.02 x 10 <sup>-4</sup>	0,0075
1000,0000	<b>1,000</b>	0,0100	0,1450	0,1020	7,5006
1 x 10 <sup>5</sup>	100,0000	<b>1,000</b>	14,5038	10,1972	750,0638
6894,7570	6,8948	0,0689	<b>1,000</b>	0,7031	51,7151
9806,6500	9,8067	0,0981	1,4223	<b>1,000</b>	73,5561
133,3220	0,1333	0,0013	0,0193	0,0136	<b>1,000</b>

## LENGTH

millimetre mm	centimetre cm	metre m	inch in	foot ft	yard yd
<b>1,000</b>	0,1000	0,0010	0,0394	0,0033	0,0011
10,0000	<b>1,000</b>	0,0100	0,3937	0,0328	0,0109
1000,0000	100,0000	<b>1,000</b>	39,3701	3,2808	1,0936
25,4000	2,5400	0,0254	<b>1,000</b>	0,0833	0,0278
304,8000	30,4800	0,3048	12,0000	<b>1,000</b>	0,3333
914,4000	91,4400	0,9144	36,0000	3,0000	<b>1,000</b>

## VOLUME

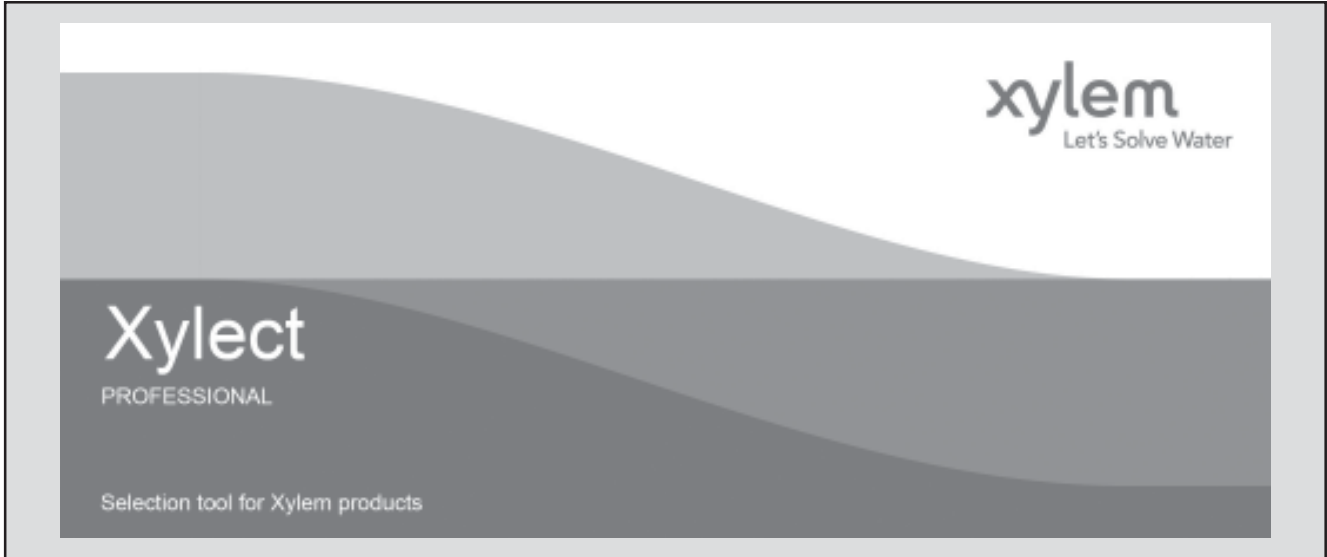
cubic metre m <sup>3</sup>	litre litro	millilitre ml	imp. Gallon imp. gal.	US gallon US gal.	cubic foot ft <sup>3</sup>
<b>1,000</b>	1000,0000	1 x 10 <sup>6</sup>	219,9694	264,1720	35,3147
0,0010	<b>1,000</b>	1000,0000	0,2200	0,2642	0,0353
1 x 10 <sup>-6</sup>	0,0010	<b>1,000</b>	2.2 x 10 <sup>-4</sup>	2.642 x 10 <sup>-4</sup>	3.53 x 10 <sup>-5</sup>
0,0045	4,5461	4546,0870	<b>1,000</b>	1,2009	0,1605
0,0038	3,7854	3785,4120	0,8327	<b>1,000</b>	0,1337
0,0283	28,3168	28316,8466	6,2288	7,4805	<b>1,000</b>

G-at\_pp-en\_a\_sc



## FURTHER PRODUCT SELECTION AND DOCUMENTATION

### Xylect



Xylect is pump solution selection software with an extensive online database of product information across the entire Lowara, and Vogel range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

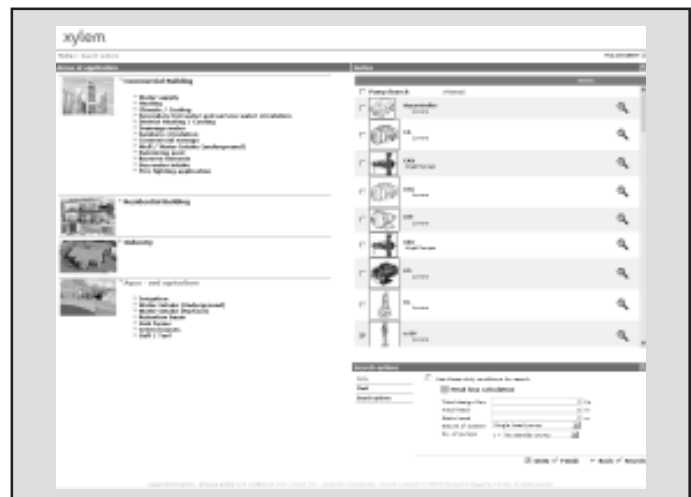
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara and Vogel products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

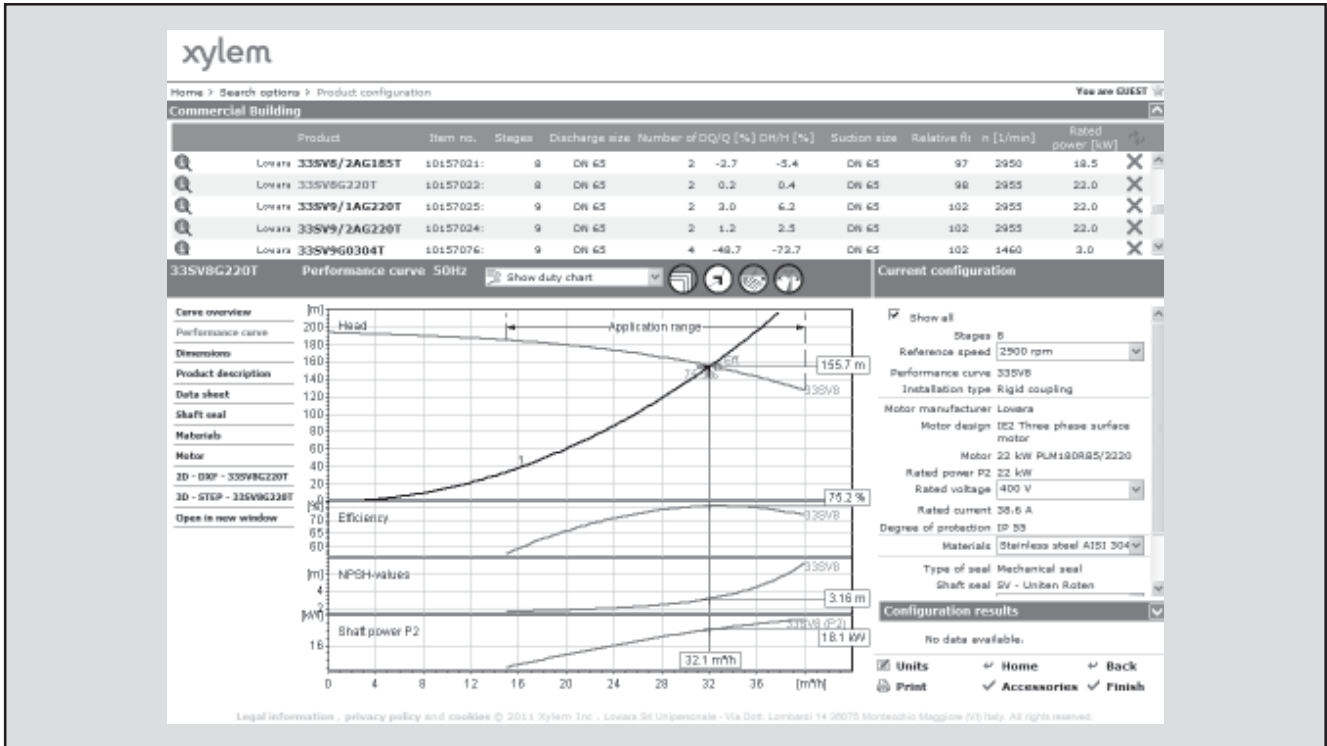
- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



*The search by application guides users not familiar with the product range to the right choice.*

**FURTHER PRODUCT SELECTION AND DOCUMENTATION**

**Xylect**



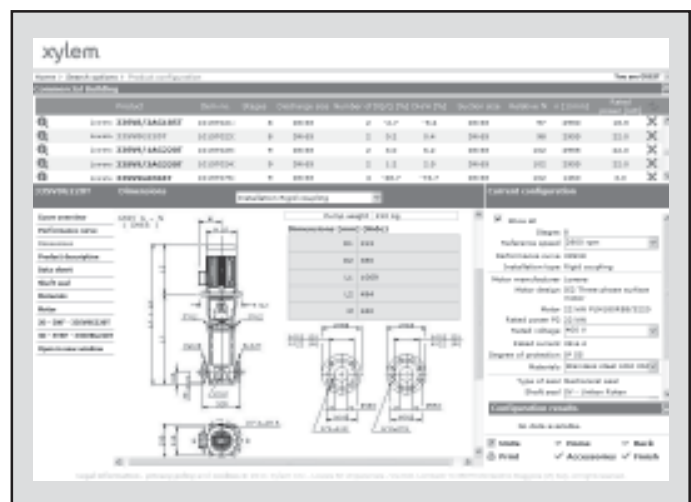
The detailed output makes it easy to select the optimal pump from the given alternatives.

The best way to work with Xylect is to create a personal account. This makes it possible to:

- Set own standard units
- Create and save projects
- Share projects with other Xylect users

Every user has a My Xylect space, where all projects are saved.

For more information about Xylect please contact our sales network or visit [www.xylect.com](http://www.xylect.com).



Dimensional drawings appear on the screen and can be downloaded in dxf format.

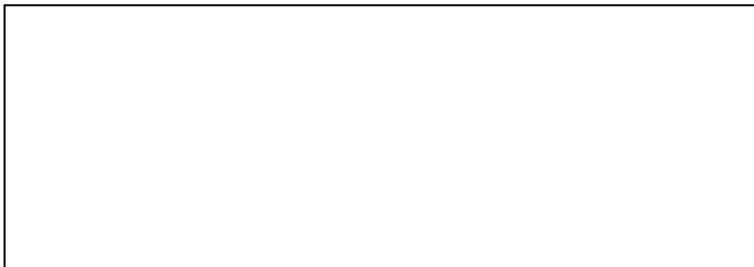


# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

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