

DEPA[®]

brands you trust.



Technical Datasheet
DEPA DH[®] Next Generation Teflon[™] PTFE
Air Operated Double Diaphragm Pumps

CRANE[®]

Crane ChemPharma & Energy

www.depapumps.com
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General Information

DH-TP and TPL pumps are made of Teflon™ PTFE and Teflon™ PTFE electro conductive housing material respectively. With the updated and optimized design, the pumps distinguish themselves through their simple, robust and rugged construction. Universal flange design (JIS, ANSI and DIN combined) enables for flexible global deployment.

Key Features

- ① The DEPA® Teflon™ PTFE pumps provide for fewer leakage paths through the implementation of integrated valve seats, manifolds with integrated flange connection, “block-mounted” pump chambers and air chambers and the rib design of DEPA® diaphragms
- ② Improved valve ball guidance increases dry suction lift by up to 50%* versus previous designs
- ③ Maintenance downtime is reduced by up to 60% and the pump weight is up to 58% lighter compared to our competitors

*According to internal testing



Sizes

Type	15 (½")	25 (1")	40 (1½")	50 (2")	80 (3")
TP	●	●	●	●	-
TPL	●	●	●	●	-

Size	15 (½")	25 (1")	40 (1½")	50 (2")
Dry suction height (mWc)*	1	3	3	5
Max. allowable particle size (mm)	3,5	10	12	12
Weight (kg)	11,2	27,0	45,8	89

*Wet suction height 8.5m for all sizes

Applications

DH-TP/ TPL pumps guarantee a gentle pumping of low and high viscous products and shear-sensitive products. The main applications for TP/ TPL pumps can be found in the chemical industry (especially for aggressive, caustic and acidic fluids). The electro conductive pump (TPL) is suitable for the usage in explosion endangered gas & dust areas.

General Information

Temperature

Temperature Range: -5°C to +100°C*

* For short periods of time upto 130 °C

Marking and Identification

The pumps are provided with a nameplate containing the pump code, serial number, date of manufacture and max. allowed temperature and pressure.

The DEPA® pump code provides all information about size, material and equipment, enabling accurate linkage to spare parts.

Applied Guidelines

- Machinery Directive 2006/42/EC
- Eurasian Conformity
- The DH-TPL pump is ATEX compliant in accordance with directive 94/9/EC (2014/34 EC)

Device Group	Device Category		Explosive Atmosphere		Explosion Group*		
			G	D	IIA	IIB	IIC
I	M1	-	-	-	-	-	-
	M2	●	-	-	-	-	-
II	1	-	-	-	-	-	-
	2	●	●	●	●	●	●**

* Only in combination with ATEX certified pump. Temperature class is given with the fluid temperature.

** DEPA Nopped E4® Diaphragm with fluid conductivity >10,000pS

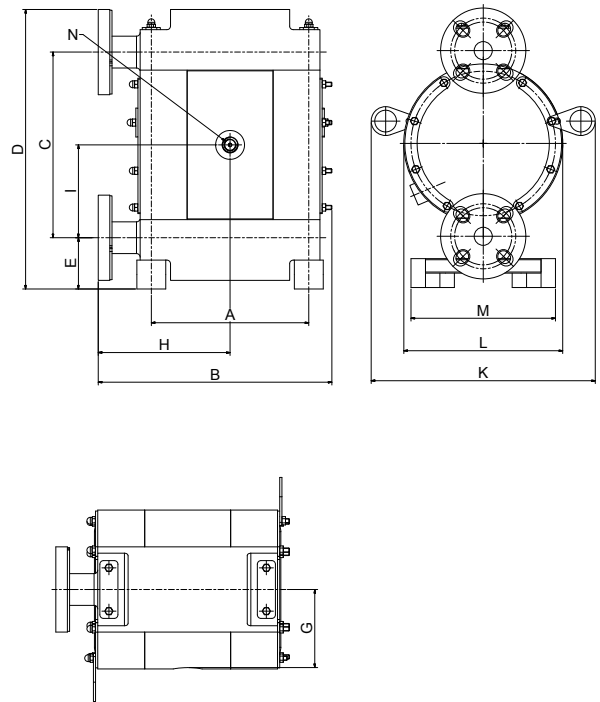


Materials & Characteristics

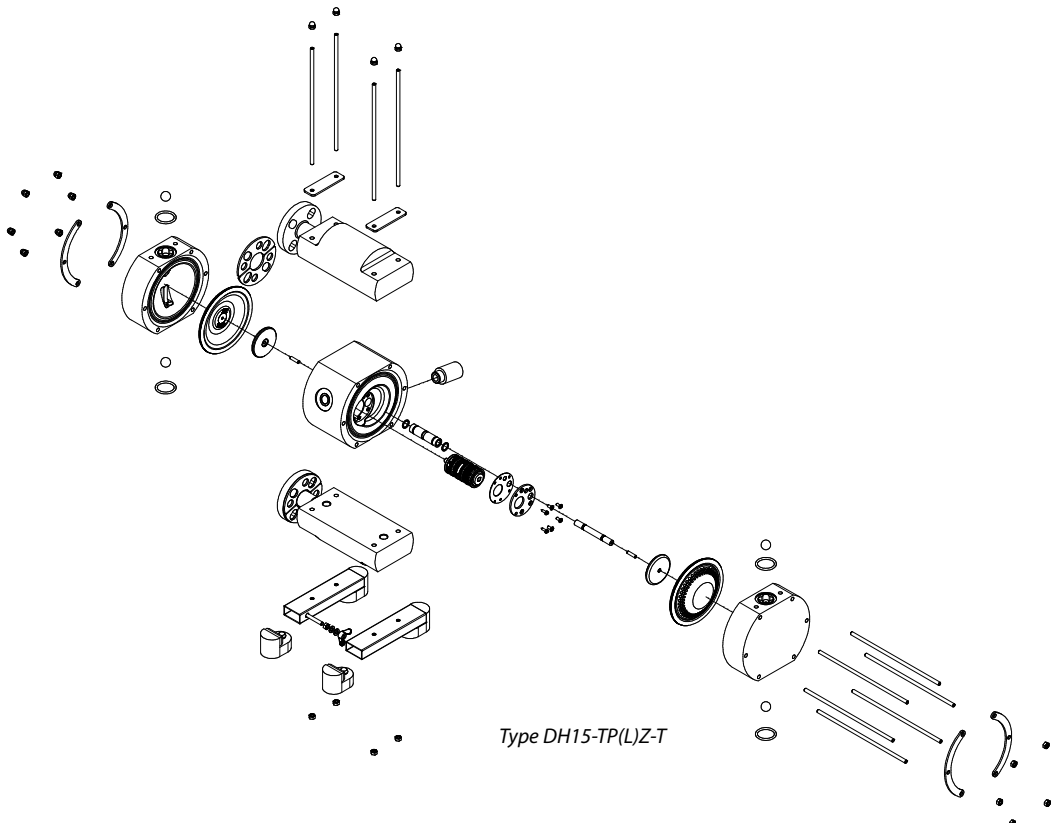
	TP	TPL
Housing Material	Teflon™ PTFE	Teflon™ PTFE electro conductive
Center block/ Air Chamber material	PP	PP electro conductive
Diaphragm fixture	Flanged	
Suction- & Discharge Manifold	Single piece	
Standard Connections	DIN, ANSI and JIS Combi-flange	

Dimensions / Exploded View

Dimensions (mm)	Sizes			
	DH15	DH25	DH40	DH50
A	154	218	255	422
B	260	324	414	559
C	178	257	307	414
D	290	387	463	585
E	64	71	81	88
G	75	108	124	166
H	146	183	231	301
I	115	129	155	204
K	-	310	328	-
L	166	220	253	338
M	200		280	
N (air inlet) inches	G3/8			



Exploded view



Pump Coding

Pump Coding

DH	25	-	T	P	-	Z	-	T
DH	25	-	T	P	L	Z	-	T

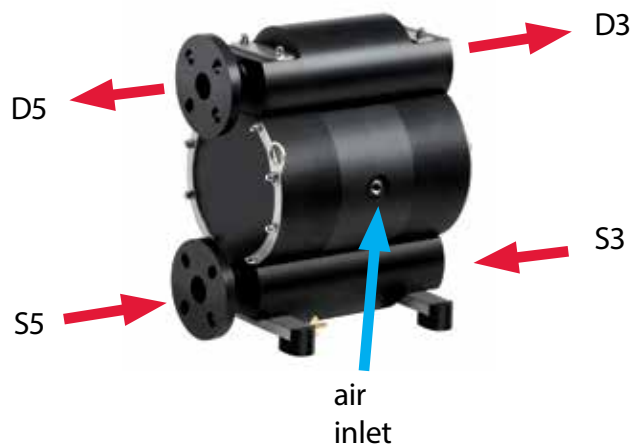
Connecting dimension DN mm / inch
15 / 1/2"
25 / 1"
40 / 1 1/2"
50 / 2"

	Material
TP-	Teflon™ PTFE
TPL	Teflon™ PTFE electro conductive

Material options		
Material	Diaphragm	Valve Ball
PTFE	-	T
DEPA® nopped E4	Z	-

	Version
DH	Standard

Product Ports / Orientation of Manifolds			
		Discharge port	
		D3	D5
		outlet right hand side (view to air inlet)	outlet left hand side (view to air inlet)
Suction port	S3 inlet right hand side (view to air inlet)	H	U
	S5 inlet left hand side (view to air inlet)	N	-



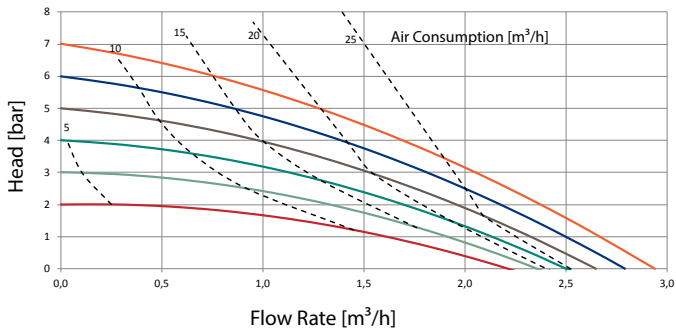
D = Discharge Side
S = Suction Side

Performance Curves

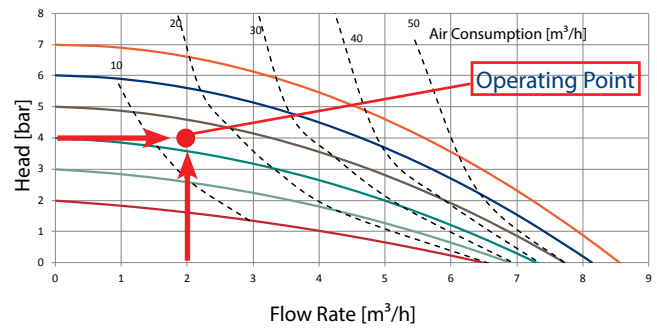
Example for pump selection

Required is 2 m³/h as the flow rate at a discharge pressure of 4 bar. Recommend is the DH25 for this application. The needed air supply pressure is 4,3 bar. This equals an air consumption rate of 13 m³/h (between Q_I = 10 m³/h and Q_I = 20 m³/h).

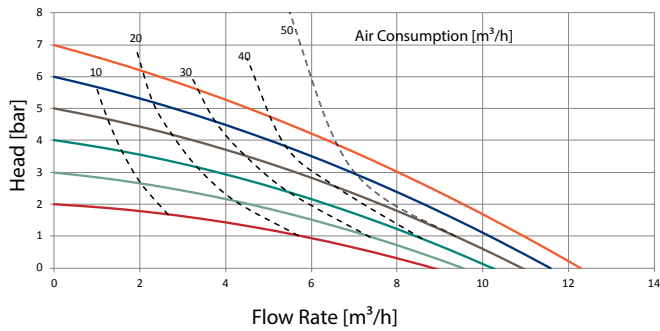
Size 15



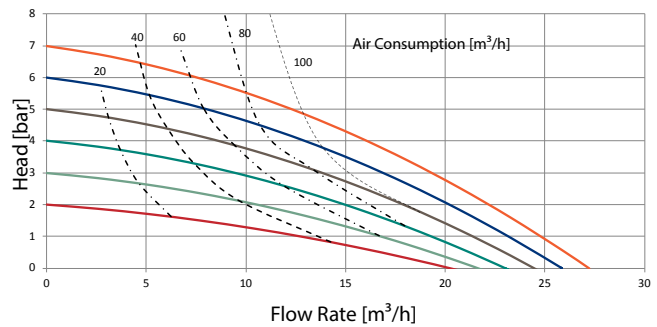
Size 25



Size 40



Size 50



Accessories and Automation

Active Pulsation Dampers

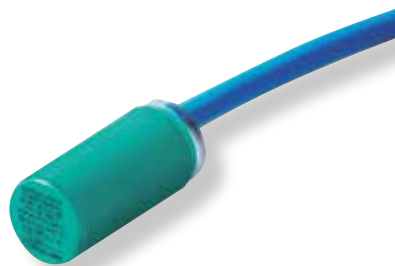


Active pulsation dampers are particularly suitable for intermittent operating conditions and, due to their integrated control, they automatically adjust to provide an optimal degree of damping. A separate air supply is required.

As with the air-operated double diaphragm pumps, a principle guiding the development of pulsation dampers is the modular use of common components.

Pulsation dampers require minimum maintenance and are, subject to the requirements of the application, available in the same housing and diaphragm materials as the pump.

Stroke Counter



The stroke counter sensor counts each cycle of the diaphragm movement. Multiplying the number of cycles with the pump chamber volumes, the discharge flow rate can be determined. For dosing applications, the stroke counter provides for precise measurement and accurate regulation.

The stroke counter sensor is located within the center block and provides an electrical output each time the diaphragm is in the end position.

The stroke counter consists of a sensor and an electronic amplifier/regulator. The sensor can be used in ATEX certified pumps.

Diaphragm leakage monitoring system



In case of diaphragm failure occurs, the pumped fluid enters the air chamber and triggers the sensor. The sensor sends subsequently an electrical output to the monitoring device for evaluation of the signal. The control unit switches of the air supply to the air valve, and thus halting the operation of the pump.

Two sensors per pump (one per chamber) are installed.

Two types of sensors are available:

- Conductivity Measurement, Standard (orange) for conductive products.
- Capacity System, ATEX (blue) for non-conductive products and approved for ATEX-certified pumps.

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