

# DH and DL Air-Operated Diaphragm Pump

## Application

The DH pump is designed for the requirements of the food, beverage, pharmaceutical and cosmetic industries.

The pump is ideally suited for abrasive, viscous and shear sensitive media.

## Working principle

DH is an air-operated double-acting positive displacement pump with two pump chambers. The compressed air is supplied through a specially designed control valve, alternately to the back of each diaphragm. This displaces the product from the pump chambers - also alternately.

The pump is completely self-priming.

## Standard design

DH is available in 2 versions, DH (standard) and DL (USDA approved).

The pump consists of housing, piston, centre block, diaphragms, valve balls, frame and clamps.

DH is corrosion-resistant and has a maintenance-free air-control system.

The pump is equipped with air filter and muffler.

## Materials

Product wetted steel parts:

Stainless steel, AISI 304 or acidresistant steel, AISI 316.

Frame, clamps:

Stainless steel, AISI 304.

Centre block:

Chromium plated cast bronze.

Diaphragm,

type DL:

NRS, NBR (Bunan), EPDM, EPDM Grey, Fluorinated rubber (FPM) or PTFE.

Diaphragm,

type DH:

EPDM Grey or PTFE.

Surface finish:

Bright.

## Technical data

Temperature range: -40°C to +140°C

**Note!** Actual limitation will be dependant on diaphragm material.

Max. air pressure : 700 kPa (7 bar).

Particle sizes and suction lifts:

Pump size	15	25	40	50	80
Particle size (mm)	3.5	10	16	18	25
Suction lift , dry (m w. col.)	3.5	4	4	4	4
Suction lift, wetted (m w. col.)	9	8	8	8	8

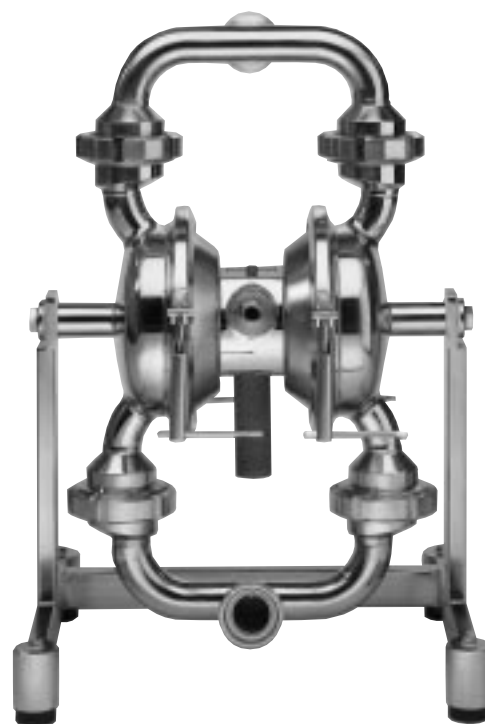


Fig. 1. DH, Air-Operated Diaphragm Pump.

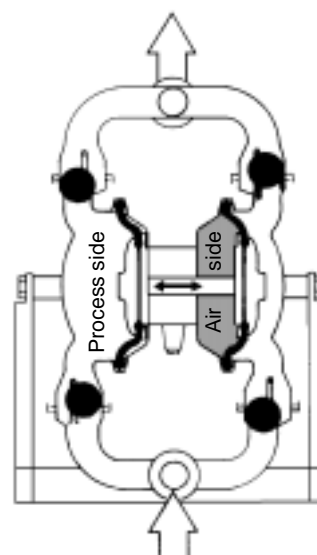


Fig. 2. Principle.

**NOTE!** For pumps equipped with valve seats of PTFE, a decrease in suction lift must be expected.

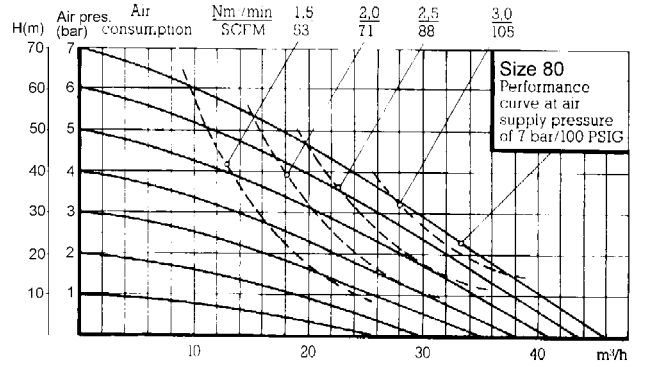
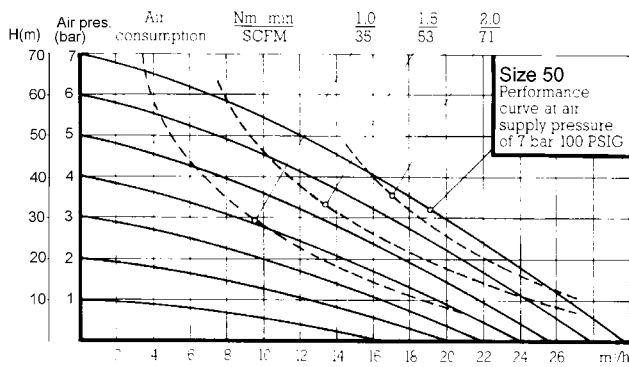
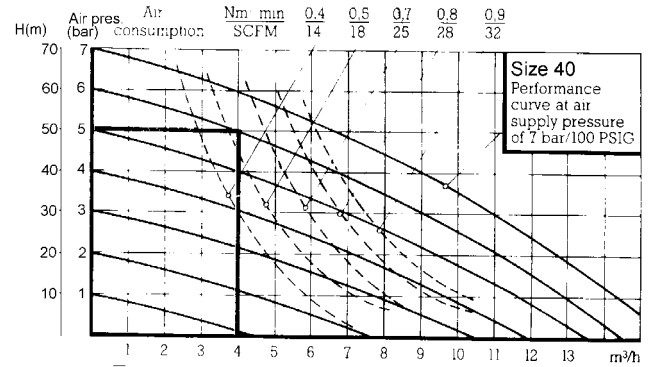
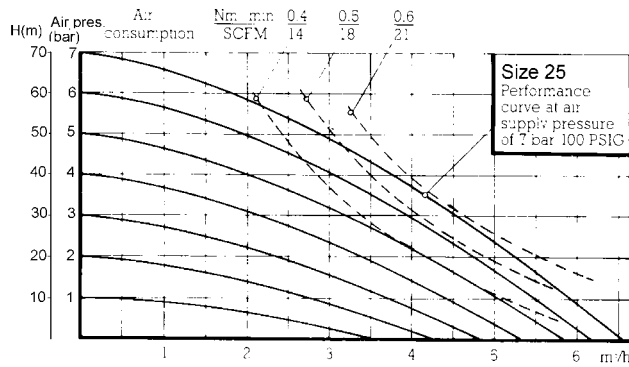
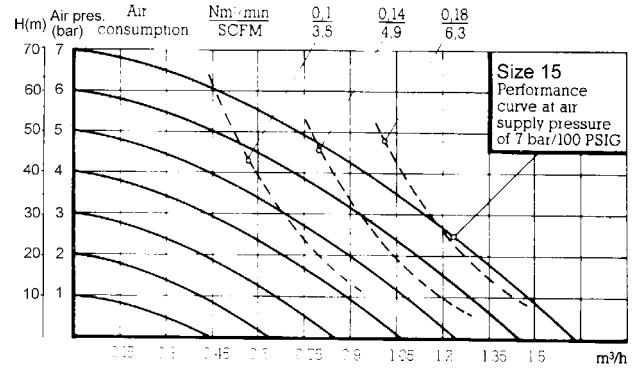
## Performance characteristics

**Example: To help you in selecting the correct pump size.**

Required pump rate is  $4\text{m}^3$  per hour, required total discharge head 50 meters. The correct selection is size 40, the required air pressure 6.0 bar and the air consumption is  $0.52\text{Nm}^3/\text{min}$ .

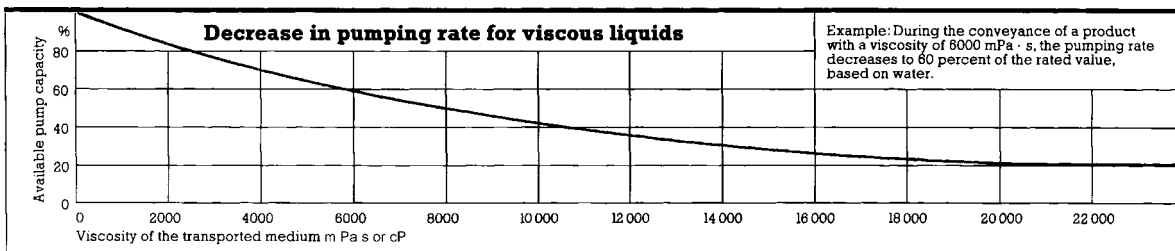
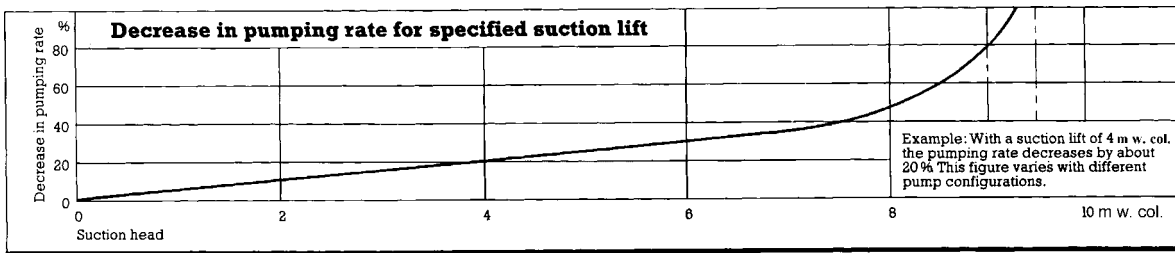
### NOTE!

The indicated pumping rates are based on water.



## Volumetric flow

### Decrease in pumping rate



### Correct selection for pumping up to 45m<sup>3</sup>/h and 70 m.

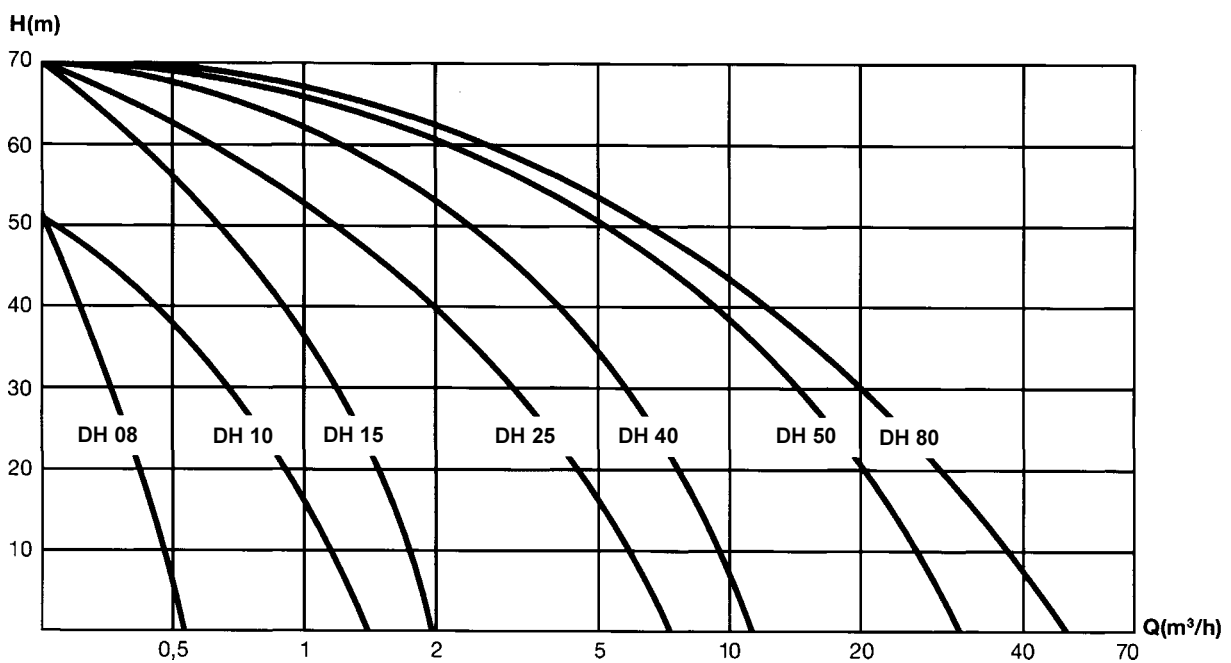


Fig. 3. Pump selection.

### Dimensions, type DH (mm)

Size	15	25	40	50
A	285	389	465	627
B	407	520	678	839
C	34	82	82	107
D	228	330	378	471
E	312	413	575	714
F	32	50	55	57
G	180	335	335	335
Air connection	1/4"	3/8"	3/8"	3/4"
Weight (kg) DL	10	22	33	56

### Dimensions, type DL (mm)

Size	15	25	40	50	80
A	255	344	420	582	750
B	406	507	678	832	1086
C	34	81	81	103	103
D	229	305	376	469	620
E	310	415	575	714	876
F	32	50	55	57	100
G	180	290	335	335	465
Air connection	1/4"	3/8"	3/8"	3/4"	3/4"
Weight (kg) DL	9	20	30	52	80

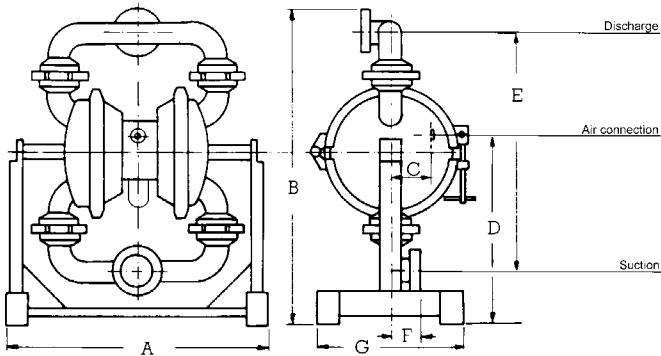


Fig. 4. Dimensions.

### Options

#### Equipment

- A) Pulsation damper.
- B) Solenoid valve.
- C) Diaphragm Monitoring system.
- D) Caster fitted frame.

### Ordering

Please state the following when ordering:

- Pump size.
- Version.
- Type of connection (type DL: Standard DIN 11851; type DH: Standard Tri-Clamp).
- Rubber grade.

**NOTE!** For further information, please see instruction IM 70781.

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*The information contained herein is correct at the time of issue but may be subject to change without prior notice.*