

**PCM DELASCO**

# Peristaltic pumps DL Series



*improving your process*

**DELASCO**

# PCM Pompes' DL Series: the rollers and hose-guides work smoothly together.

The DL Series comprises 6 models: DL 12, DL 18, DL 25, DL 35, DL 45 and DL 55. These pumps are equipped with a reinforced hose, rollers and hose-guides. The combination of rollers and hose-guides reduces the mechanical stress on the hose. The working life of the hose is increased through the combination of rollers and hose-guides.

## Benefits

### Of peristaltic technology

- Self-priming
- Can be run dry
- Design sealless
- Rapid, economic maintenance
- Reversible
- Dosing

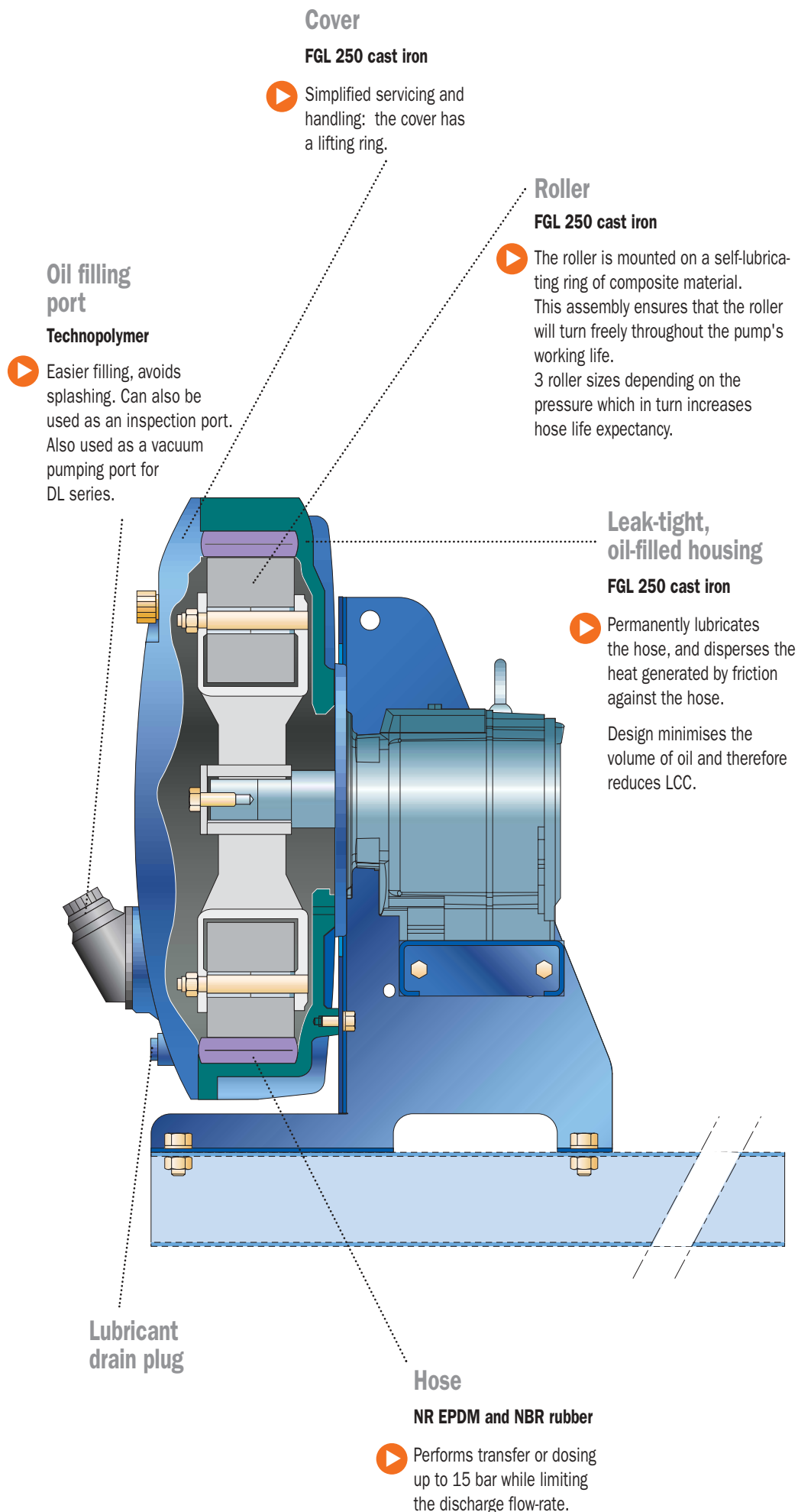
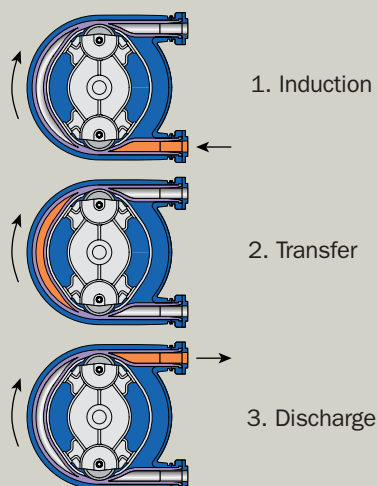
### Of experienced designing

- Versatile  
(varied applications and products)
- Does not alter pumped product

## Characteristics

- Minimum flow-rate: 44 l/h
- Maximum flow-rate: 20 m³/h
- Maximum pressure: 15 bar
- Maximum temperature in continuous operation: 90°C
- Cylinder capacity: 63 to 1700 cm³
- Self-priming: 9 m W.C.
- Speed: 5 to 133 rpm
- Reversible pump
- Hose reinforced by synthetic braid

## Operation



# Construction

## DL Series

### 12.18.25.35.45.55

#### Relief-valve plug

##### Technopolymer

- ▶ Overpressure safety inside pump housing.

#### Steel hose-guide

##### E 24 steel

- ▶ This design increases the squeezed surface area of the hose, so lengthening hose working life.

#### Applicable directives and standards

The pumps of the DL series are manufactured as part of ISO 9001 certified organization and comply with the machine directive and the relevant harmonised CE and NF standards.



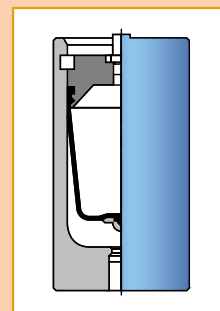
#### Optional equipment

##### Pulsation damping chamber

Installed on the discharge side of the pump, it cancels out pulsation during pump operation, as well as start-up hammering. It facilitates the installation of instrumentation components and lengthens hose working life.

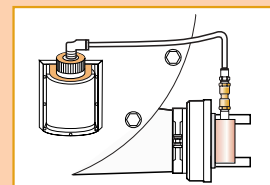
This means that the pulsation damping chamber is regarded as:

- A process accessory.
- A safety part.



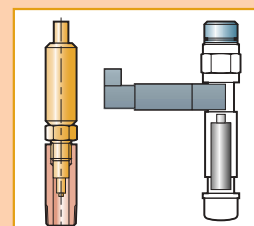
##### Vacuum pumping

Available from the DL 55 model, this system helps the hose recover its natural shape after it has been squeezed by the rollers.



##### Hose failure detection

Cuts and cracks in the hose cause the product to leak, and when mixed with the oil in the sump, causes the oil level to rise. The hose failure detection unit is designed to report this anomaly, which can be transmitted remotely via a dry contact.



#### Oil-level sight glass

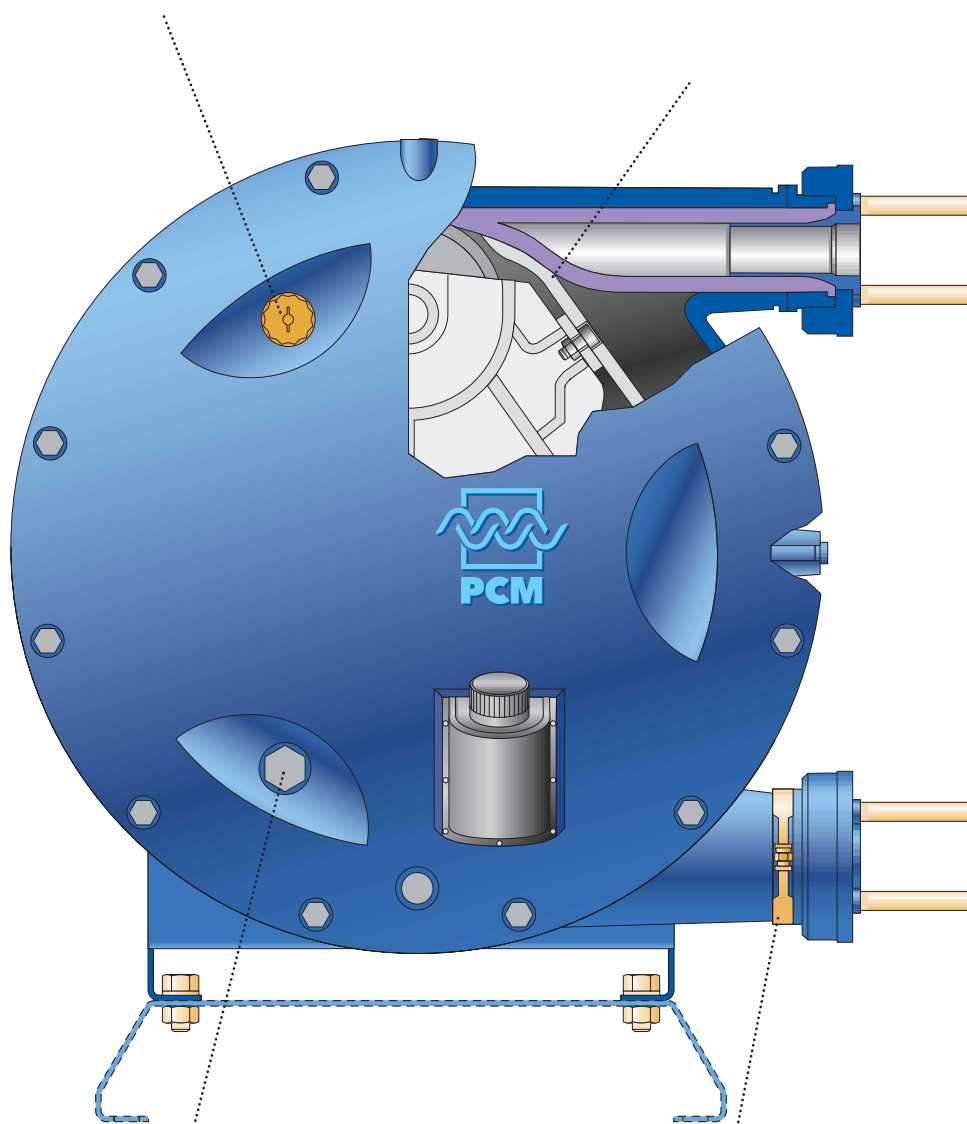
##### Technopolymer

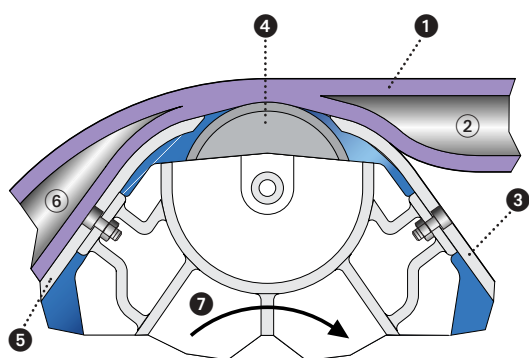
- ▶ Magnifying effect, for easy oil-level checking.

#### Clamped collar

##### Zinc or stainless steel

- ▶ Clamp type, ensures perfect leak-tightness while facilitating rapid removal.

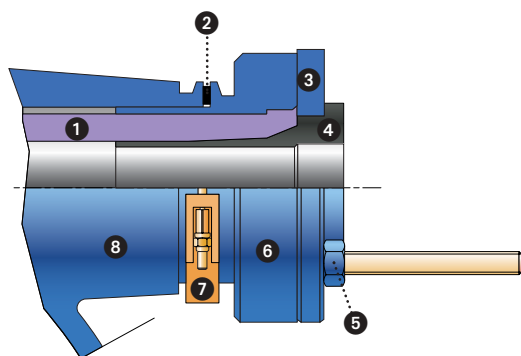




- ① Hose
- ② Hose chamber under pressure
- ③ Hose-guide, leading-edge hose squeeze holder
- ④ Roller
- ⑤ Hose-guide, hose squeeze holder gradually bringing hose chamber ⑥ under pressure
- ⑥ Hose depression chamber
- ⑦ Rotor

## Configuration: The rotor/roller/ hose-guide assembly

The PCM Delasco DL series of pumps is equipped with hose-guides in addition to the rollers. The association of rollers and hose-guides combines several advantages: the roller rolls without damaging the hose, the hose-guide increases the squeezed surface area, as well as enabling the roller to act on the hose more gradually. Compared with a conventional peristaltic pump of equivalent flow-rate and pressure, the roller/hose-guide combination lengthens hose life, and requires lower installed power as well as a smaller quantity of oil.



- ① Hose
  - ② Gasket
  - ③ Flange
  - ④ Insert
  - ⑤ Tightener
  - ⑥ Sheath
  - ⑦ Clamped collar
  - ⑧ Housing
- Standard    ● Options  
▲ On request

## Couplings

Fastening the hose with a clamped collar:

- makes for greater leak-tightness under depression
- facilitates assembly and disassembly. Since the number of parts involved in connection is considerably reduced, the hose changing time is cut back by almost 70%.

### Coupling details

	DL 12	DL 18	DL 25	DL 35	DL 45	DL 55
Serrated (1)	■	■	—	—	—	—
PPH threaded	■	■	●	●	●	●
Flanges NP 20 (2)	—	▲	■	■	■	■
SMS in AISI 316L	—	●	●	●	●	●
DIN in AISI 316L	▲	▲	▲	▲	▲	▲
Tri-Clamp in AISI 316L	▲	▲	▲	▲	▲	▲
Flange NP 16 (3)	—	▲	●	●	●	●
PPH fast serrated coupling (4)	●	●	●	●	●	●

Other types on consultation

- (1) Stainless steel 316 L or polypropylene couplings. (3) Stainless steel 316 L or polypropylene adapter.  
(2) Stainless steel 304 L or polypropylene insert. (4) Max pressure 7 bar.

## Hose material available for all pumps

Temperature hose limit.

HOSES	CONTINUOUS OPERATION > 8 H/DAY	INTERMITTENT OPERATION SEQUENCE 10 – 20 MIN. / HOUR	OCCASIONAL OPERATION, INSTANTANEOUS TEMP. PEAK
Reinforced NR	5 to 40 °C	80 °C	90 °C
Reinforced EPDM	5 to 80 °C	90 °C	100 °C
Reinforced NBR	5 to 60 °C	80 °C	90 °C

## Hoses

Everything flows through the machined reinforced rubber hose, and no metal part is in contact with the product. The hose lining has a fundamental role: it assures the integrity of the pumped product during transfer and offers high resistance to abrasives.

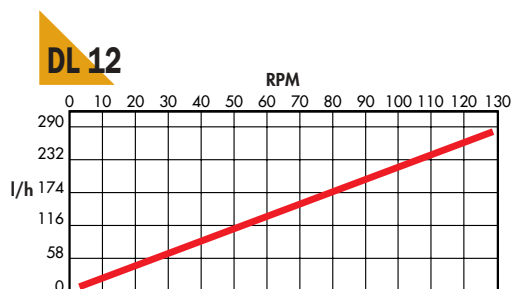
The hose is available in three grades: NR (Reinforced Natural Rubber), EPDM (Ethylene Propylene Diene Monomer), and NBR (Butadiene-acrylonitrile rubber).

# Performance charts

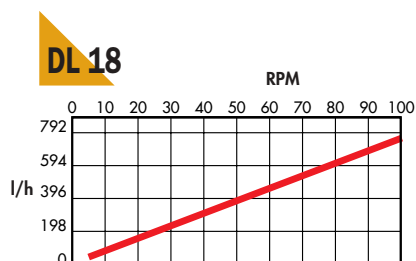
## Flow-rates

### DL Series 12.18.25.35.45.55

- Continuous use
- Intermittent use
- Outside the area of use

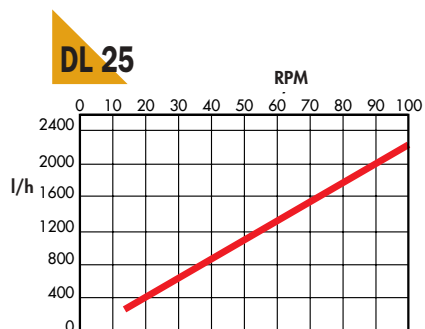


MOTOR POWER (kW)			
TYPE DL 12		Pressure (bar)	
Flow-rate (l/h)	Speed (rpm)	5	7.5
44	20	0.18	0.18
67	31	0.25	0.25
119	55	0.37	0.37
213	99	0.55	0.55
279	129	0.75	0.75
35 to 240	16 to 111	0.75	0.75

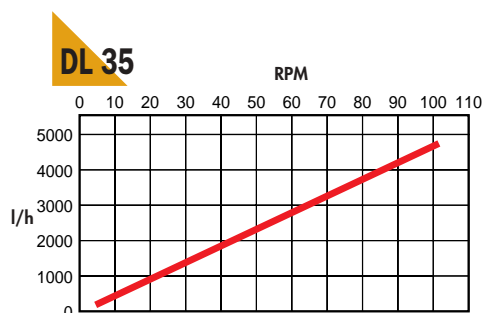


MOTOR POWER (kW)			
TYPE DL 18		Pressure (bar)	
Flow-rate (l/h)	Speed (rpm)	5	7.5
86	11	0.18	0.18
124	16	0.25	0.25
156	21	0.25	0.25
305	40	0.55	0.55
441	58	0.75	0.75
533	70	1.1	1.1
756	100	1.5	1.5
113 to 738	15 to 105	1.5	1.5

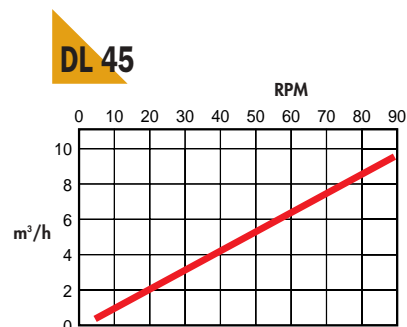
## **Performance charts Flow-rates (continued)** **DL Series 12.18.25.35.45.55**



MOTOR POWER (kW)				
TYPE DL 25		Pressure (bar)		
Flow-rate (l/h)	Speed (rpm)	5	10	15
288	13	0.18	0.25	0.25
490	22	0.25	0.37	0.37
632	28	0.55	0.55	0.55
826	37	0.55	0.55	0.75
1177	52	0.75	0.75	0.75
1312	58	0.75	1.1	1.1
2250	100	1.5	1.5	2.2
180 to 1305	8 to 58	0.75	1.5	
292 to 2070	13 to 92	1.1	1.5	
338 to 2362	15 to 105	1.5	1.5	

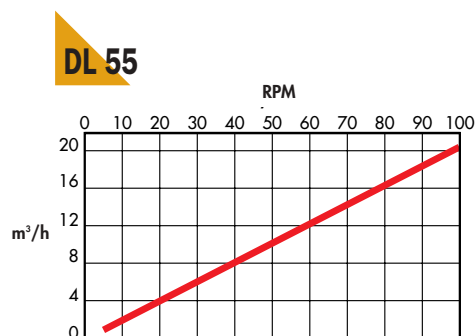


MOTOR POWER (kW)				
TYPE DL 35		Pressure (bar)		
Flow-rate (l/h)	Speed (rpm)	5	10	15
529	12	0.37	0.55	0.75
882	19	0.75	1.1	1.5
1494	32	1.1	1.5	2.2
1926	42	1.5	2.2	3
2367	52	2.2	3	4
3635	79	3	4	5.5
4688	102	4	5.5	7.5
506 to 3401	11 to 74	3	4	



MOTOR POWER (kW)				
TYPE DL 45		Pressure (bar)		
Flow-rate (l/h)	Speed (rpm)	5	10	15
1.32	12	0.55	1.1	1.1
1.69	16	0.75	1.1	1.5
3.45	32	1.5	2.2	2.2
4.45	42	2.2	3	4
5.47	52	2.2	4	4
7.74	73	3	5.5	5.5
9.46	89	4	7.5	7.5
0.53 to 3.61	5 to 34	1.5	2.2	2.2
1.17 to 7.86	11 to 74	3	4	

## **Performance charts Flow-rates (continued)** **DL Series 12.18.25.35.45.55**



		MOTOR POWER (kw)		
TYPE DL 55		Pressure (bar)		
Flow-rate (m³/h)	Speed (rpm)	5	10	15
2.04	10	1.5	1.5	1.5
4.28	21	3	3	3
8.16	40	4	4	
10.2	50	5.5	5.5	
14.89	73	5.5		
20.4	100	7.5		
1.43 to 10.19	7 to 50	7.5	7.5	7.5
2.04 to 12.26	10 to 60	5.5	7.5	7.5

## **Applications** **DL Series 12.18.25.35.45.55**

DL series pumps are used in many sectors of activity for transferring products such as cement slurry, ceramic slip, fermentation must, liquid soap, and for dosing hydrochloric acid, milk of lime, ammonium sulphate, etc.

They are the ideal solution for applications where the installation conditions and process constraints call for flexibility and robustness:

- **Reversibility.**
- **Seallessness.**
- **Abrasion resistance.**

### **Water treatment**

DL 45 pump for recovery of spume and floating matter on decanter



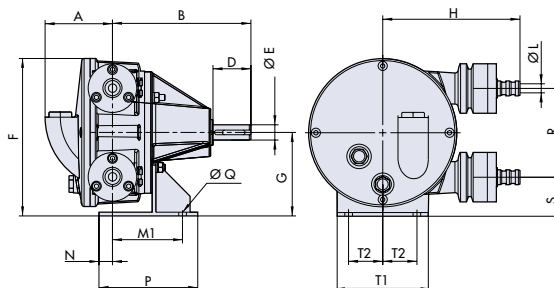


# Outside dimensions

## DL Series 12.18.25.35.45.55

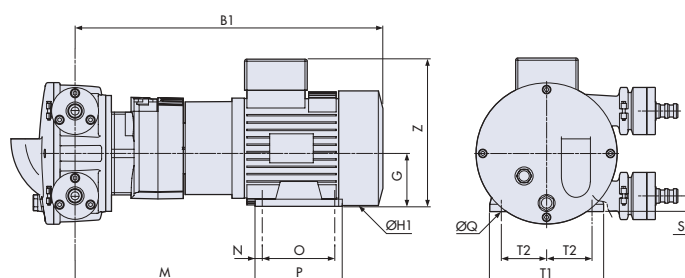
**Diagram 1**

DL 12 bare shaft bearing mounted

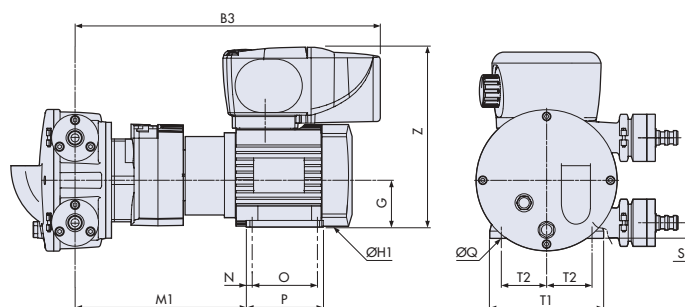


**Diagram 2**

DL 12 motorisation monobloc assembly

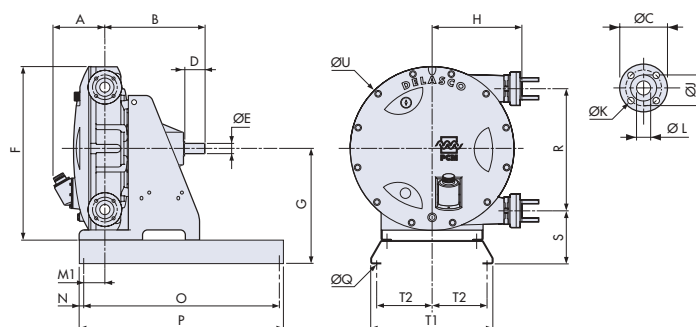


DL 12 with integrated frequency variator



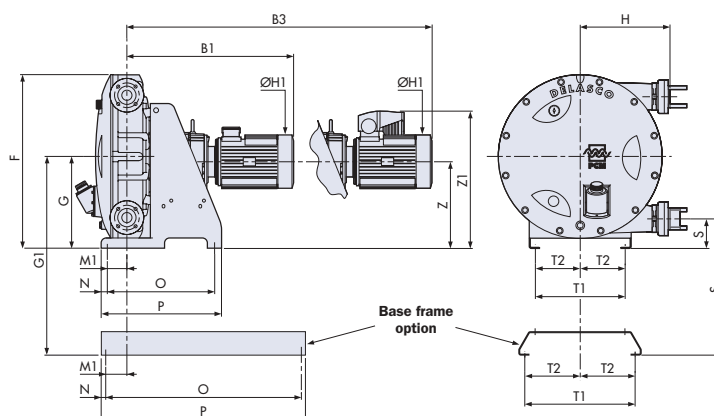
**Diagram 3**

DL 18 - DL 55 bearing mounted



**Diagram 4**

DL 18 - DL 55  
Monobloc/integrated  
frequency variator





# Outside dimensions

## DL Series 12.18.25.35.45.55

### Bearing mounted

PUMP	Dia.	A	B	ø C	D	ø E	F	G	H	ø J	ø K	ø L	M1	N	O	P	ø Q	R	S	T1	T2	ø U	Weight (kg)
DL 12	1	89	182	-	51	20j6	208	110	181	*1		11	92	110	-	130	2 x ø10	117	51	120	45	195	17
DL 18		100	181	-	51	20j6	513	363	237	*2		15	32	30	540	600	4 x ø14	192	267	350	145	290	37
DL 25		120	266	108	50	25f7	563	363	290	79,4	4 x M14	20	32	30	540	600	4 x ø14	282	222	350	145	400	85
DL 35	3	214	312	117	70	40f7	750	490	303	88,9	4 x M14	30	100	20	960	1000	4 x ø18	352	314	550	245	484	180
DL 45		222	310	127	70	40f7	810	490	387	98,4	4 x M14	40	100	20	960	1000	4 x ø18	468	256	550	245	640	277
DL 55		253	491	152	100	50f7	765	565	444	120,6	4 x M16	50	105	20	960	1000	4 x ø18	600	265	600	270	800	546

\*1 : serrated coupling Ø20 or R 3/4 threaded

\*2 : serrated coupling Ø25 or R 3/4 threaded"

### Monobloc assembly

PUMP	Dia.	Motor (kW)	B1	B3	øH1	M1	N	O	P	øQ	S	T1	T2	Weight (kg)	Base frame option								Weight (kg)
															M1	N	O	P	øQ	S	T1	T2	
DL 12	2	0,18	342	-	124	212	8	80	96	4xø7	5	115	50	22,5									
		0,37	381	-	140	244	7,5	90	106		13	126	56	24,5									
		0,55	389	421										26									
		0,75	423	-	170	258	10	100	120		22	157	62,5	27									
DL 18	4	0,18		-	-	27	34	310	369	4xø14	154	250	95	44,5	32	30	540	600	4xø14	267	350	145	8,5
		0,25	423,5	-	140																		
		0,37		-																			
		0,55	431,5	487	*3									46									
		0,75	465	-	170									46,5									
		1,1	498,5	181	190									49									
DL 25	4	0,25	445	-		17	34	310	369	4xø14	109	250	95	78	32	30	540	600	4xø14	222	350	145	8,5
		0,37		-	140									79,5									
		0,55	453	-										80									
		0,75		486	170									84,5									
		1,5		547	190									85									
DL 35	4	0,75	586	-	170	90	30	500	565	4xø18	199	450	195	172,5	100	20	960	1000	4xø18	314	550	245	30,5
		1,5	647	-	190									176,5									
		2,2		-	200																		
		3	672	-										185									
		4		691	*4									188									
DL 45	4	1,1	618	-	190	90	30	500	565	4xø18	141	450	195	271,5	100	20	960	1000	4xø18	256	550	245	30,5
		2,2		670	200									282,5									
		3	670	-																			
		4		687	*4									285,5									
DL 55	4	1,5	675	-	190	90	15	520	590	4xø18	150	500	220	462	105	20	960	1000	4xø18	265	600	270	72
		3	715	-	200									470									
		4	732	-										472									
		5,5		751	235									486									
		7,5	819	491	280									507									

\*3: size 140 for fixed speed and 180 for variable speed

\*4: size 200 for fixed speed and 235 for variable speed

## Manufacturing ceramic decorative ornaments

Pumps supplying  
the production line with  
ceramic slip.  
These DL 55 pumps are  
equipped with  
the vacuum pumping sys-  
tem and the  
hose-failure detector.



## Manufacturing of pet-food

DL 18 dosing pumps for  
colouring agents and aro-  
mas installed with negative  
suction.



## Surface treatment

Surface treatment bath  
transfer pump. This DL 25  
pump is installed vertically  
and equipped with a starter.



The technical advantages of the peristaltic pump mean that it can satisfy a very wide range of applications in a large number of different sectors of activity.

SECTOR OF ACTIVITY	APPLICATION EXAMPLES
Water treatment	<ul style="list-style-type: none"> <li>• Lime milk dosing</li> <li>• Bacteriological sludge transfer</li> <li>• Filter press feed</li> </ul>
Paper and board	<ul style="list-style-type: none"> <li>• Coating fluid transfer</li> <li>• Titanium dioxide (TiO<sub>2</sub>) transfer</li> <li>• Waste- and solid-bearing water transfer</li> <li>• Glue or resin transfer</li> </ul>
Building, civil engineering, quarrying, ceramics industry	<ul style="list-style-type: none"> <li>• Liquid enamel transfer</li> <li>• Slip transfer</li> <li>• Coating transfer</li> <li>• Ooze dragging</li> <li>• Sludge transfer from settling tanks</li> <li>• Cement grout transfer</li> <li>• Glue and emulsion transfer</li> </ul>
Agro-food	<ul style="list-style-type: none"> <li>• Wine lees, grape must transfer</li> <li>• Fruit purée transfer</li> <li>• Potato waste transfer</li> <li>• Process sludge transfer</li> <li>• Slaughterhouse wastes/greasy water/offal/blood transfer</li> </ul>
Chemistry	<ul style="list-style-type: none"> <li>• Solid-bearing effluent transfer</li> <li>• Liquid chalk transfer</li> <li>• Soda aluminate transfer</li> <li>• Sulphate and oxide transfer</li> </ul>
Other industries	<ul style="list-style-type: none"> <li>• Coating product transfer (Foundry)</li> <li>• Bentonite transfer</li> <li>• Nuclear effluent transfer</li> </ul>

This table is not exhaustive. It lists the commonest applications. Obviously there are many more in a variety of fields.

## PUMPED PRODUCTS

### Specific gravity

Maximum specific gravity: 2.  
For higher values, please consult us.

### Particles

The maximum particle size must not exceed 1/3 of hose inner diameter. Soft particles (whole fruit or fruit segments; meat or fish pieces) can be the same size as the hose diameter.

### Dry matter

Dry-matter concentration can be as high as 25% to 60%, depending upon specific gravity. Pump speed should be adjusted so as to avoid wringing solid-bearing liquids, or clogging on the inlet side.

### Viscosity

0 to 40 000 centipoises depending on hose diameter and pump rotation speed. For high viscosities, examination of a sample, or a pumping test may sometimes be necessary. Please consult us.

# The PCM DELASCO range

The variety of different constructions and of elastomer hoses of the peristaltic pumps in the PCM Delasco range means that they can cover a wide variety of applications calling for versatility and flexibility.



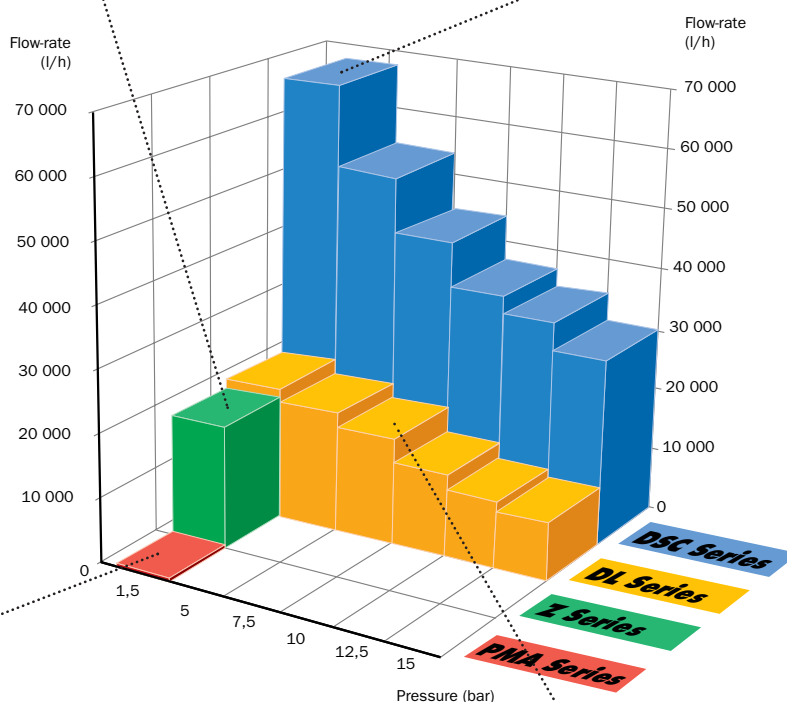
## Z SERIES

The peristaltic pump for low pressures.  
Flow-rate: up to 18 m<sup>3</sup>/h  
Pressure: up to 1.5 bar.



## DSC SERIES

The pump with the reinforced hose for high pressures.  
Flow-rate: up to 68 m<sup>3</sup>/h  
Pressure: up to 15 bar.



## PMA SERIES

Special low flow-rate pump.  
Flow-rate: up to 200 l/h  
Pressure: up to 1.5 bar.



## DL SERIES

Peristaltic pump combining rollers and hose-guides for longer hose life and better leak-tightness in depression.  
Flow-rate: up to 20 m<sup>3</sup>/h  
Pressure: up to 15 bar.

## Services

PCM is constantly striving to work closer with its partners by responding to its customers' needs and offering quality service. All the aspects of LCC are taken into account to provide a better quality product and improve performance.



### Equipment repair and overhaul...

Speed and efficiency. Our technical assistance staff undertake repairs to pumps and regularly overhaul equipment which is already installed.

### Maintenance Contract...

PCM offer maintenance contracts drawn up to suit the requirements and operating conditions of each production unit.

### Spare parts...

Unbeatable delivery. PCM hold a permanent stock of spare parts and accessories so that they can respond to all urgent enquiries.

### Technical assistance...

PCM recommend that their customers take out a maintenance contract to ensure that their pumps provide optimum performance. PCM's technical assistance staff regularly visit installations to perform preventive or corrective maintenance.

### Training...

PCM offer a two-day training course designed to give maintenance personnel a thorough understanding of how to use and maintain positive displacement pumps.

### Pumpexpress...

Availability and reactivity. Complete pumps are available for delivery at any time. This new service allows PCM to meet urgent requests for equipment.

## PCM's range of products includes:

**PCM MOINEAU** The widest range of progressive cavity pumps

**PCM DELASCO** A complete range of adaptable multi-purpose peristaltic pumps

**PCM PROCESS** Feeding and filling systems

**PCM DOSYS** Precision dosing and continuous blending systems

**PCM PRÉCI-POMPE** Electro-mechanical diaphragm and piston dosing pumps

**PCM EQUIPEMENT** Pipeliner-grinders

**PCM MOINEAU OILFIELD** Progressive cavity pumps for crude oil extraction



*improving your process*

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