

AIR OPERATED PISTON PUMPS





*Headquarters Offices and
Technical Centre in Gijón (Spain)*

SAMOA: LEADING THROUGH INNOVATION

SAMOA, a privately owned company, is a **leading European manufacturer of Lubrication and Fluid Handling Equipment**. SAMOA products are used for transferring, dispensing, dosing, and recovering different types of fluids in multiple industries and applications. SAMOA designs and manufactures a **wide program that includes air operated piston and double diaphragm pumps**, volume flow meters, delivery guns, electronic components for inventory control systems, hose reels, hand pumps and accessories for these products.

Product research and development is a fundamental part of SAMOA's philosophy. We are in permanent contact with the market to identify new customer needs, that we satisfy with existing product improvement and new product development.

SAMOA's headquarters have been in Gijón, on the Spanish North Coast, for over 60 years. SAMOA's manufacturing facilities are modern and equipped with the latest state-of-the-art production equipment and technology. We are **committed to design and manufacturing excellence, environmental sustainability and a healthy and safe workplace**; our work processes and facilities are consequently ISO 9001, ISO 14001 and ISO 45001 certified.

Our products are available through a network of **fully owned subsidiaries and knowledgeable distributors**. This global network provides a sales and consulting service, to identify the products that best meet each customer's needs, and when required offers after sales service to ensure the long and satisfactory use of our equipment.

A continuous product improvement process ensures that **our products meet customer requirements worldwide**, including in even the most demanding applications and environments. As a result, we are proud to say that SAMOA products are reliably working away, night and day, in more than 100 countries.

SAMOA PISTON PUMPS

Piston pumps are used in a wide variety of fluid handling applications. The majority of these can be broken into four different categories:

TRANSFER

Simple transfer involves moving a low to medium viscosity fluid from one location to another. Double-Ball and Power-Piston pumps are normally used in transfer applications.

EXTRUSION

Extrusion involves using a piston pump to apply medium to high viscosity materials. Typical extrusion applications require accessories like inductor plates. Power-Piston and Shovel Inlet pumps are commonly used in extrusion applications.

COATING APPLICATION

This involves application of a material by either spray or dipping. Coating applications may use Double-Ball pumps.

MEASURING/DISPENSE

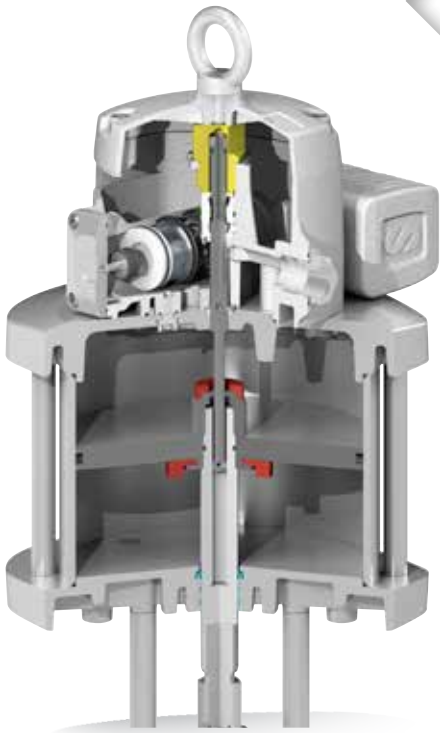
Measuring and Dispense involves the delivery of a specified quantity of fluid on a repetitive basis. Measuring/Dispense applications use Double-Ball, Power-Piston and Shovel Inlet pumps.



PM100 16:1 ratio
Shovel inlet pum
for dispensing
heavy materials.



PM60 3:1 ratio
high delivery transfer
Double-Ball transfer
(up to 150 kg/min)



RELIABLE AIR MOTORS

Samoa mechanically driven air motors provide the reliability and dependability required for assuring non-stalling operation and superb performance under every working condition. The very simple air valve has no energy consuming springs that could fail due to material fatigue or pneumatic end of stroke sensors that could get locked because of dirty air.

All Samoa air motors include a well dimensioned air exhaust manufactured in aluminium for an efficient heat transfer to avoid icing. The air exhaust includes a muffler to reduce noise levels, to meet or exceed OSHA requirements. The muffler can be removed for connecting an air hose to the exhaust port for expanding the air to a remote location.

Air motors are available with 3 ½", 4 ½", 6", 8", 10" and 12" air pistons.

SAMOA PISTON PUMP TYPES AND APPLICATIONS

DOUBLE-BALL PUMPS



They have a large porting for positive priming and pumping of light to medium viscosity fluids.

Applications

Transfer and supply
Spray
Measure and dispense

Materials handled

Oils
Coatings
Paints
Chemicals

SHOVEL INLET PUMPS



The primer rod extends below pump cylinder to penetrate and work the material as well as provide positive priming of the heaviest pumpable materials.

Applications

Extrusion
Measure and dispense

Materials handled

Caulking
Heavy lubricants
Mastics
Sealants
Glues
Grease adhesives



DOUBLE BALL PISTON PUMPS - DIVORCED DESIGN

PM2 1:1 pressure ratio - 147 cc per pump cycle	6
PM4 3:1 pressure ratio - 147 cc per pump cycle	6
P33 1:1 pressure ratio - 50 cc per pump cycle.....	7
P31 2:1 pressure ratio - 100 cc per cycle	8
VEGA 5:1 pressure ratio - 170 cc per pump cycle	9
GHIBLI 10:1 pressure ratio - 260 cc per cycle.....	10
Double ball piston pumps - Accessories.....	11

SHOVEL INLET PISTON PUMPS - DIVORCED DESIGN

PM35 23:1 pressure ratio - 30 cc per pump cycle	12
PM45 48:1 pressure ratio - 38 cc per pump cycle	13
PM80 50:1 pressure ratio - 166 cc per pump cycle	14
Shovel inlet piston pumps - Accessories	16

OIL TRANSFER PUMPS - IN-LINE DESIGN

PM2 1:1 pressure ratio - 136 cc per pump cycle	16
PM35 5:1 pressure ratio - 172 cc per pump cycle	17
PM35 8:1 pressure ratio - 125 cc per pump cycle	17
PM45 3:1 pressure ratio - 570 cc per pump cycle	18
PM45 6:1 pressure ratio - 320 cc per pump cycle	18
PM45 10:1 pressure ratio - 190 cc per pump cycle	19
PM45 25:1 pressure ratio - 75 cc per pump cycle	19
PM60 6:1 pressure ratio - 570 cc per pump cycle	20
PM60 12:1 pressure ratio - 320 cc per pump cycle	20
Oil transfer pumps - Accessories.....	21



GREASE PUMPS - IN-LINE DESIGN

PM35 20:1 pressure ratio - 35 cc per pump cycle	22
PM35 60:1 pressure ratio - 14 cc per pump cycle	22
PM45 10:1 pressure ratio - 156 cc per pump cycle	23
PM45 40:1 pressure ratio - 50 cc per pump cycle	24
PM45 70:1 pressure ratio - 35 cc per pump cycle	24
PM60 3:1 pressure ratio - 850 cc per pump cycle	25
PM60 12:1 pressure ratio - 300 cc per pump cycle	25
PM60 80:1 pressure ratio - 50 cc per pump cycle	26
PM80 35:1 pressure ratio - 156 cc per pump cycle	27
Grease transfer pumps - Accessories	28

ULTRA-HIGH PRESSURE PUMPS - DIVORCED & IN-LINE DESIGN

PM80 45:1 pressure ratio - 125 cc per pump cycle	30
PM60 100:1 pressure ratio - 34 cc per cycle	31
PM80 168:1 pressure ratio - 34 cc per cycle	32
PM80 200:1 pressure ratio - 28 cc per cycle	32
PM100 240:1 pressure ratio - 52 cc per cycle	33
Ultra-high pressure pumps - Accessories	34

QKD PUMPS - DIVORCED DESIGN

PM60 5:1 pressure ratio - 1.072 cc per pump cycle	36
PM60 10:1 pressure ratio - 650 cc per pump cycle	36
QKD pumps - Accessories	37

INK TRANSFER PUMPS - DIVORCED DESIGN

PM45 17:1 pressure ratio - 125 cc per pump cycle	38
PM45 28:1 pressure ratio - 70 cc per pump cycle	39
PM60 12:1 pressure ratio - 290 cc per pump cycle	40
PM80 20:1 pressure ratio - 290 cc per pump cycle	41
PM100 22:1 pressure ratio - 442 cc per pump cycle	42
PM100 16:1 pressure ratio - 625 cc per pump cycle	42
Ink transfer pumps - Accessories	43

DOUBLE BALL · DIVORCED DESIGN

PM2

AIR MOTOR

DOUBLE BALL · DIVORCED DESIGN

PM4

AIR MOTOR

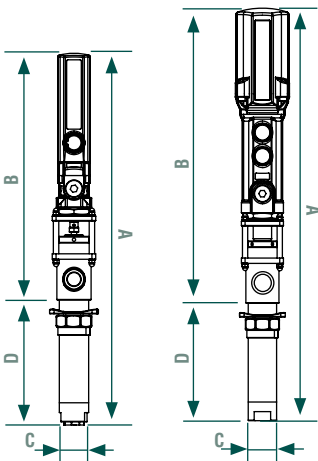
STAINLESS STEEL TRANSFER PUMPS

1:1 PRESSURE RATIO - 147 CC PER PUMP CYCLE

3:1 PRESSURE RATIO - 147 CC PER PUMP CYCLE

High and intermediate pressure grease pumps. Pumps can be used with all kind of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift to aid pump lift, to aid pump prime, might be required.

Differential type air motor and ball valves pump with divorced design. Pumps are available as stub pumps or full drum length to fit 205 l (55 gal) drums and include a height adjustable 2" bung adaptor.



DIMENSIONS

PUMP	1:1		3:1	
	STUB	205 L	STUB	205 L
DRUM TYPE	STUB	205 L	STUB	205 L
A (mm)	675	1.372	772	1.472
B (mm)	452	452	552	552
C (mm)	54	54	54	54
D (mm)	223	920	220	920

TECHNICAL DATA

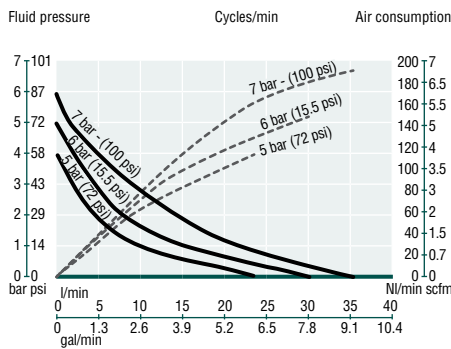
Pressure ratio	1:1	3:1
Pump delivery per cycle	147 c.c.	147 c.c.
Fluid delivery at 90 cycle/min	13,3 l/min (3.5 gal/min)	13,3 l/min (3.5 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	7 bar (100 psi)	21 bar (300 psi)
Air motor effective air piston diameter	36 mm (1.4")	60 mm (2.4")
Air motor piston stroke	75 mm (3")	75 mm (3")
Air inlet thread	1/4" (F)	3/8" (F)
Fluid outlet thread	3/4" (F)	3/4" (F)
Fluid inlet thread (stub pumps)	1" (F)	1" (F)
Wetted parts material:	AISI 316 stainless steel / PTFE / FKM	AISI 316 stainless steel / PTFE / FKM

ORDER INFORMATION - Stainless Steel transfer pump

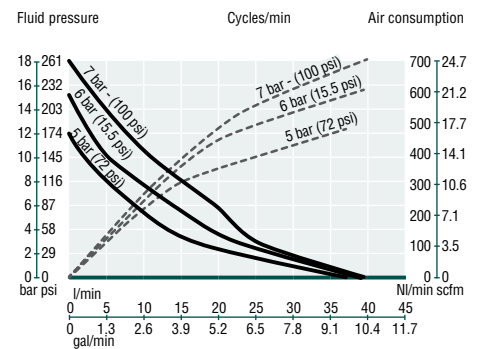
PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
1:1	147 c.c	Stub	DB-1-147-SSA-B	DB-1-147-SSA-N
1:1	147 c.c	205 l / 55 gal drum length	DB-1-147-SSC-B	DB-1-147-SSC-N
3:1	147 c.c	Stub	DB-3-147-SSA-B	DB-3-147-SSA-N
3:1	147 c.c	205 l / 55 gal drum length	DB-3-147-SSC-B	DB-3-147-SSC-N

PERFORMANCE CHARTS

PM2, RATIO 1:1 SAE 10, 21 °C (70 °F)



PM4, RATIO 3:1 SAE 10, 21 °C (70 °F)



— Outlet pressure
- - - Air consumption

— Outlet pressure
- - - Air consumption

LARIUS SERIES TRANSFER PUMPS

1:1 PRESSURE RATIO – 50 CC PER PUMP CYCLE

Divorced design pumps with ball valves for transferring low viscosity fluids. These pumps have two versions, one manufactured in carbon steel and the other in stainless steel.

Pumps are available as stub pumps or full drum length to fit 200 l (55 gal) drums.

TECHNICAL DATA

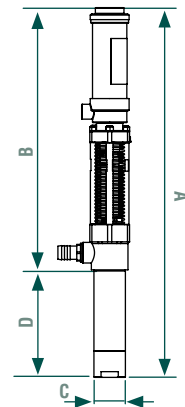
Pump Ratio	1:1
Pump delivery per cycle	200 cc
Fluid delivery at 100 cycle/min	20 l/min (6 gal/min)
Air pressure range	2 - 12 bar (30 - 175 psi)
Maximum fluid pressure	12 bar (175 psi)
Air motor piston effective diameter	35 mm (1 3/8")
Air motor piston stroke	100 mm (4")
Air consumption at 60 cycles/min	3 bar, 70 l/min (43 psi, 18.5 gal/min) 5 bar, 110 l/min (72 psi, 29 gal/min) 7 bar, 150 l/min (100 psi, 40 gal/min)
Air inlet thread	1/4" BSPP (F)
Fluid outlet thread	3/4" BSPP (F)
Fluid inlet thread	M36X2 (M). For long version pump milled fluid inlet valve 1" BSPP (F)
Wetted parts materials	AISI 303 - AISI 304 Stainless Steel / Carbon Steel, AISI 420 B Stainless Steel, PTFE



ATEX certified pump  II 2 G c IIB T4

ORDER INFORMATION

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS
1:1	50 c.c	Stub	LA100 1C0
1:1	50 c.c	Stub (stainless steel)	LA100 1S0
1:1	50 c.c	205 l / 55 gal drum	LA100 1C2
1:1	50 c.c	205 l / 55 gal drum (stainless steel)	LA100 1S2



DIMENSIONS

DRUM TYPE	200 L	STUB
A (mm)	1.455	647
B (mm)	459	459
C (mm)	55	55
D (mm)	996	188

DOUBLE BALL · DIVORCED DESIGN

P31

AIR MOTOR

LARIUS SERIES TRANSFER PUMPS

2:1 PRESSURE RATIO - 100 CC PER CYCLE



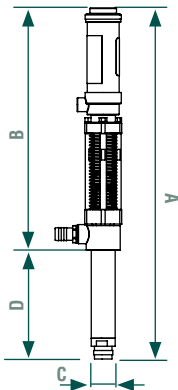
Divorced design pumps with ball valves for transferring low viscosity fluids. These pumps have two versions, one manufactured in carbon steel and the other in stainless steel.

Pumps are available as stub pumps or full drum length to fit 200 l (55 gal) drums.

TECHNICAL DATA

Pump Ratio	2:1
Pump delivery per cycle	100 cc
Fluid delivery at 100 cycle/min	10 l/min (3 gal/min)
Air pressure range	2 - 12 bar (30 - 175 psi)
Maximum fluid pressure	24 bar (350 psi)
Air motor piston effective diameter	35 mm (1 3/8")
Air motor piston stroke	100 mm (4")
Air consumption at 60 cycles/min	3 bar, 70 l/min (43 psi, 18.5 gal/min) 5 bar, 110 l/min (72 psi, 29 gal/min) 7 bar, 150 l/min (100 psi, 40 gal/min)
Air inlet thread	1/4" BSPP (F)
Fluid outlet thread	3/4" BSPP (F)
Fluid inlet thread	M36X2 (M). For long version pump milled fluid inlet valve 1" BSPP (F)
Wetted parts materials	AISI 303 - AISI 304 Stainless Steel / Carbon Steel, AISI 420 B Stainless Steel, PTFE

ATEX certified pump  II 2 G c IIB T4



DIMENSIONS

DRUM TYPE	200 L	STUB
A (mm)	1.431	661
B (mm)	456	456
C (mm)	45	45
D (mm)	975	205

ORDER INFORMATION

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS
2:1	100 c.c	205 l / 55 gal drum	LA100 2C2
2:1	100 c.c	205 l / 55 gal drum (stainless steel)	LA100 2S2
2:1	100 c.c	Stub	LA100 2C0
2:1	100 c.c	Stub (stainless steel)	LA100 2S0

LARIUS SERIES TRANSFER PUMPS

5:1 PRESSURE RATIO – 170 CC PER PUMP CYCLE


VEGA
AIR MOTOR

Divorced design pumps with ball valves for transferring fluids at low pressure. These pumps have two versions, one manufactured in carbon steel and the other in stainless steel.

Pumps are available as stub pumps, medium length pumps for 30 - 60 l (8 - 15 gal) drums or full drum length to fit 200 l (55 gal) drums.

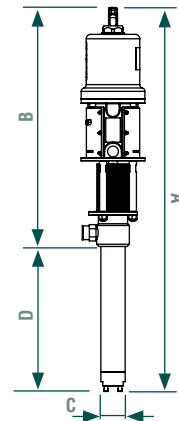
TECHNICAL DATA

Pump Ratio	5:1
Pump delivery per cycle	170 cc
Fluid delivery at 100 cycle/min	10 l/min (3 gal)
Air pressure range	3 - 8 bar (40 - 120 psi)
Maximum fluid pressure	40 bar (600 psi)
Air motor piston effective diameter	75 mm (3")
Air motor piston stroke	75 mm (3")
Air consumption at 60 cycles/min	3 bar, 198 l/min (43 psi, 52 gal/min) 5 bar, 330 l/min (72 psi, 87 gal/min) 7 bar, 462 l/min (100 psi, 122 gal/min)
Air inlet thread	3/8" BSPP (F)
Fluid outlet thread	3/4" BSPP (F)
Fluid inlet thread - Short pump	M36X2 (M). For long version pump milled fluid inlet valve 1" BSPP (F)
Wetted parts materials	AISI 303 - AISI 304 Stainless Steel / Carbon Steel, AISI 420 B Stainless Steel, PTFE

ATEX certified pump  ATEX II 2 G c IIB T6

ORDER INFORMATION

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS
5:1	170 c.c	205 l / 55 gal drum	LA101 1C2
5:1	170 c.c	205 l / 55 gal drum (stainless steel)	LA101 1S2
5:1	170 c.c	30 - 60 l / 8- 15 gal pail	LA101 1C4
5:1	170 c.c	30 - 60 l / 8- 15 gal pail (stainless steel)	LA101 1S4
5:1	170 c.c	Stub	LA101 1C0
5:1	170 c.c	Stub (stainless steel)	LA101 1S0



DIMENSIONS

DRUM TYPE	200 L	60-30 L	STUB
A (mm)	1.519	999	869
B (mm)	541	541	541
C (mm)	55	55	55
D (mm)	978	458	328

LARIUS SERIES TRANSFER PUMPS

10:1 PRESSURE RATIO - 260 CC PER CYCLE




Divorced design pumps with ball valves for transferring fluids at low or medium pressure. These pumps have two versions, one manufactured in carbon steel and the other in stainless steel.

Pumps are available as stub pumps, medium length pumps for 30 - 60 l (8 - 15 gal) drums or full drum length to fit 200 l (55 gal) drums.

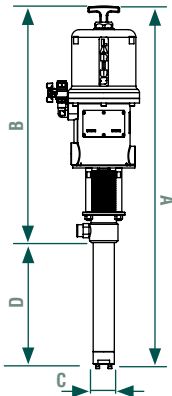
TECHNICAL DATA

Pump Ratio	10:1
Pump delivery per cycle	260 cc
Fluid delivery at 100 cycle/min	15 l/min
Air pressure range	3 - 7 bar (40 - 100 psi)
Maximum fluid pressure	70 bar (1,000 psi)
Air motor piston effective diameter	108 mm (4 1/4")
Air motor piston stroke	100 mm (4")
Air consumption at 60 cycles/min	3 bar, 500 l/min (43 psi, 132 gal/min) 5 bar, 840 l/min (43 psi, 222 gal/min) 7 bar, 1.200 l/min (43 psi, 317 gal/min)
Air inlet thread	1/2" BSPP (F)
Fluid outlet thread	3/4" BSPP (F)
Fluid inlet thread - Short pump	1" BSPP (F)
Wetted parts materials	AISI 303 - AISI 304 Stainless Steel / Carbon Steel, AISI 420 B Stainless Steel, PTFE

ATEX certified pump  ATEX II 2 G c IIB T6

ORDER INFORMATION

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS
10:1	260 c.c	205 l / 55 gal drum	LA102 2C2
10:1	260 c.c	205 l / 55 gal drum (stainless steel)	LA102 2S2
10:1	260 c.c	30 - 60 l / 8 - 15 gal pail	LA102 2C4
10:1	260 c.c	30 - 60 l / 8 - 15 gal pail (stainless steel)	LA102 2S4
10:1	260 c.c	Stub	LA102 2C0
10:1	260 c.c	Stub (stainless steel)	LA102 2S0



DIMENSIONS

DRUM TYPE	200 L	60-30 L	STUB
A (mm)	1.592	1.072	943
B (mm)	615	615	615
C (mm)	55	55	55
D (mm)	977	457	328

DOUBLE BALL PISTON PUMPS - ACCESSORIES

AIR TREATMENT UNITS

PART No.	THREAD	COMPONENT	APPLICATION
240 000	1/4" BSP (FF)	Combined air filter, regulator and lubricator	PM2, P33 and P31 pumps
240 500		Combined air filter and regulator	
240 201		Air line regulator	
240 200		Air line regulator	
240 300		Air filter	
240 400		Air lubricator	
241 001	1/2" BSP (FF) with 1/2" BSP(M) - 3/8" BSP(F) adaptors	Combined air filter, regulator and lubricator	PM4, Vega and Ghibli pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	



240 000



241 001

AIR QUICK COUPLERS AND NIPPLES



253 114



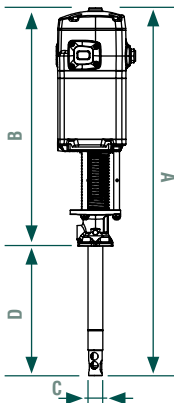
259 014

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
1/4"	PM2	253 114	259 014
3/8"	PM4 and Vega pumps	251 438	255 338
1/2"	Ghibli pumps	251 412	255 312

PM35

AIR MOTOR



DIMENSIONS

PUMP RATIO	23:1
A (mm)	755
B (mm)	414
C (mm)	35
D (mm)	341

SHOVEL INLET PISTON PUMPS

23:1 PRESSURE RATIO - 30 CC PER PUMP CYCLE

Medium pressure transfer pumps for use with viscous materials. These divorced design pumps have a 3.15" diameter flat plate air motor and a shovel inlet valve.

Follower plate mounted pumps, they must be used with a Power RAM or pump lift.

TECHNICAL DATA

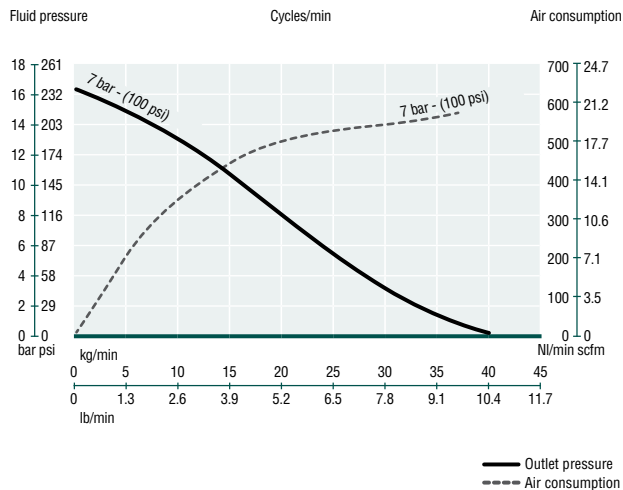
Pressure ratio	23:1
Pump delivery per cycle	30 c.c.
Fluid delivery at 60 cycle/min	1,8 l/min (0.5 gal/min)
Air pressure range	1,5 to 10 bar (20 to 150 psi)
Maximum fluid pressure	230 bar (3,400 psi)
Air motor effective air piston diameter	80 mm (3.15")
Air motor piston stroke	76 mm (3")
Air inlet thread	3/8" NPSM
Fluid outlet thread	1/2" NPT
Wetted parts material:	Hard chromed steel / Carbon steel/ Viton®/ Filled PTFE / POM / Copper

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
23:1	147 c.c.	Stub	PD-23-30-CSA-B	PD-23-30-CSA-N

PERFORMANCE CHARTS

PM35, RATIO 23:1 NGLI-2, 21 °C (70 °F)



SHOVEL INLET PISTON PUMPS

48:1 PRESSURE RATIO - 38 CC PER PUMP CYCLE

High pressure pumps. These divorced design pumps have a 4.5" diameter flat plate air motor and a shovel inlet valve.

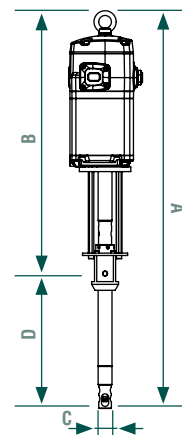
Follower plate mounted pumps, the must be used with a Power RAM or pump lift.

TECHNICAL DATA

Pressure ratio	48:1
Pump delivery per cycle	38 c.c.
Fluid delivery at 60 cycle/min	2,3 l/min (0.6 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	330 bar (4,800 psi)
Air motor effective air piston diameter	115 mm (4.5")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" NPT
Fluid outlet thread	1/2" NPT
Wetted parts material	Hard chromed steel/ Carbon steel/ Viton®/ Filled PTFE/ PEEK/ Stainless steel/ Copper

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APLICATION	BSP THREADS	NPT THREADS
48:1	38 c.c	Stub	PD-48-38-CSA-B	PD-48-38-CSA-N

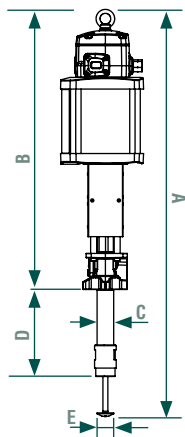
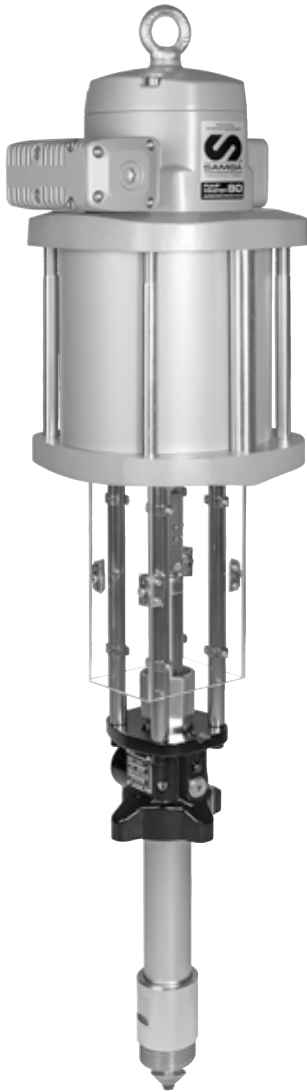


DIMENSIONS

PUMP RATIO	48:1
A (mm)	1005
B (mm)	664
C (mm)	35
D (mm)	341

PM80

AIR MOTOR



DIMENSIONS

PUMP RATIO	50:1
A (mm)*	1.221 - 1.101
B (mm)	840
C (mm)	60
D (mm)	261
E (mm)	50

* Maximum and minimum value depending on the primer rod extension

SHOVEL INLET PISTON PUMPS

50:1 PRESSURE RATIO - 166 CC PER PUMP CYCLE

High pressure pumps for viscous materials such as mastics or tail grease for tunnel boring machines. These divorced design pumps have an 8” diameter flat plate air motor and a shovel inlet valve.

These pumps are mounted directly on a double post RAM for 200 kg (440 lb) drums.

TECHNICAL DATA

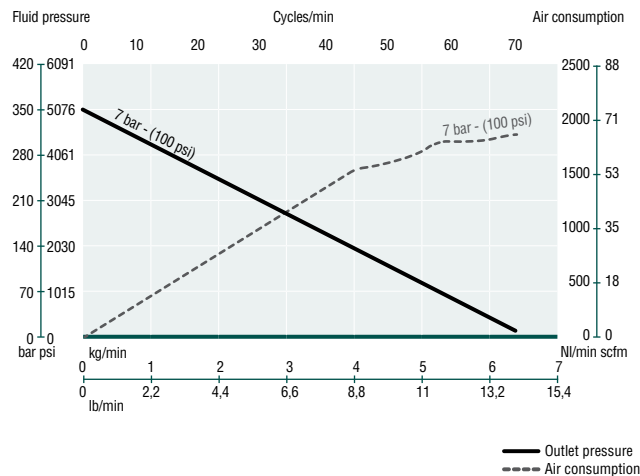
Pressure ratio	50:1
Pump delivery per cycle	166 cc
Fluid delivery at 60 cycle/min	9,96 l/min (2.6 gal/min)
Air pressure range	3 to 7 bar (40 to 100 psi)
Maximum fluid pressure	350 bar (5,000 psi)
Air motor effective air piston diameter	200 mm (8”)
Air motor piston stroke	150 mm (6”)
Air inlet thread	3/4” NPT(F)
Fluid outlet thread	1” NPT(F)
Fluid inlet thread	2” BSP(F)
Wetted parts material	Carbon steel / Cast iron / Copper / Polyurethane / PTFE

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
50:1	166 c.c	Stub	PD-50-166-CSA-B	PD-50-166-CSA-N

PERFORMANCE CHARTS

PM80, RATIO 50:1 NGLI-2, 21 °C (70 °F)



SHOVEL INLET PISTON PUMPS - ACCESSORIES / PACKAGES FOR SHOVEL INLET PISTON PUMPS

AIR TREATMENT UNITS



PART No.	THREAD	COMPONENT	APPLICATION
241 001	1/2" BSP (FF) with 1/2" BSP (M) - 3/8" BSP (F)	Combined air filter, regulator and lubricator	PM35, PM45 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	
242 102	3/4" BSP (FF)	Combined air filter, regulator and lubricator	PM80 pumps
242 202		Air line regulator	
242 302		Air filter	
242 402		Air lubricator	



251 412



255 312

AIR QUICK COUPLERS AND NIPPLES

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
3/8"	PM35 pumps	251 438	255 338
1/2"	PM45 and PM80 pumps	251 412	255 312



544 950

PNEUMATIC INDUCTOR FOR 185 OR 200 KG DRUMS

Double post pneumatic inductor with automatic Power RAM controls for 185 or 200 kg drums. Suitable for use with high viscosity fluids, it helps with pump priming and the follower plate prevents fluid contamination.

PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION	FOLLOWER PLATE TYPE
544 950	PM80	50:1	166 c.c.	185 kg (400 lb)	Double ring

DOUBLE BALL · IN-LINE DESIGN

PM2

AIR MOTOR



OIL TRANSFER PUMP

1:1 PRESSURE RATIO - 136 CC PER PUMP CYCLE

High pressure grease pumps. Pumps can be used with all kinds of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift, to aid pump prime, might be required.

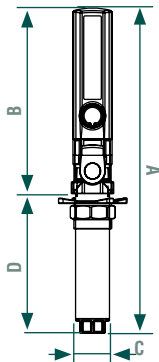
Flat plate air motor and ball valves pump with in-line design. Pumps are available for cover mount to 50 kg (120 lb) and 185 kg (400 lb) open drums and for horizontal and side mount on grease totes and bags.

TECHNICAL DATA

Pressure ratio	1:1
Pump delivery per cycle	136 c.c.
Fluid delivery at 90 cycle/min	12,25 l/min (3.25 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	7 bar (100 psi)
Air motor effective air piston diameter	36 mm (1.4")
Air motor piston stroke	75 mm (3")
Air inlet thread	1/4" (F)
Fluid outlet thread	3/4" (F)
Fluid inlet thread (stub pump)	1" (F)
Wetted parts material:	Aluminium / Steel / NBR / Acetal / Polyurethane

ORDER INFORMATION - Lubricants transfer pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
1:1	136 c.c	Stub	DB-1-136-CSA-B	DB-1-136-CSA-N
1:1	136 c.c	200 l (55 gal)	DB-1-136-CSC-B	DB-1-136-CSC-N

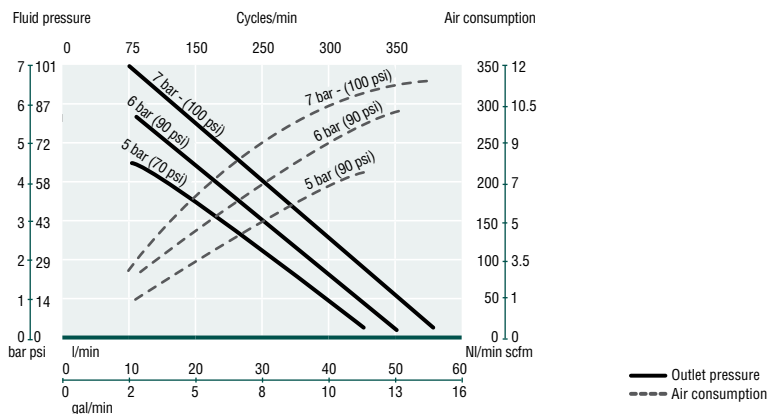


DIMENSIONS

DRUM TYPE	STUB	200 L
A (mm)	500	985
B (mm)	285	285
C (mm)	52	52
D (mm)	215	700

PERFORMANCE CHARTS

PM2 RATIO 1:1 SAE 30, 23° C (74° F)



OIL TRANSFER PUMPS

5:1 PRESSURE RATIO - 172 CC PER PUMP CYCLE
 8:1 PRESSURE RATIO - 125 CC PER PUMP CYCLE

Pumps designed for transferring mineral and synthetic lubricants, including low consistency greases, and other non-corrosive fluids, from drums and other containers.

Flat plate air motor and ball valves pump with in-line design. Pump includes height adjustable 2" bung adaptor.

Pumps include port for optional pressure relief valve.



TECHNICAL DATA

	5:1	8:1
Pressure ratio	5:1	8:1
Pump delivery per cycle	172 c.c.	125 c.c.
Fluid delivery at 90 cycle/min	15,5 l/min (4.1 gal/min)	11,4 l/min (3 gal/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	40 bar (575 psi)	64 bar (920 psi)
Air motor effective air piston diameter	80 mm (3.15")	80 mm (3.15")
Air motor piston stroke	80 mm (3.15")	80 mm (3.15")
Air inlet thread	3/8" (F)	3/8" (F)
Fluid outlet thread	1/2" (F)	1/2" (F)
Fluid inlet thread (stub pump)	1-1/2" (F)	1" (F)
Wetted parts material:	Hard chromed steel / Steel / Polyurethane / NBR / Aluminium	Cast iron / Hard chromed steel / Steel/ Polyurethane / NBR

ATEX certified pump II 2G c IIB T4.

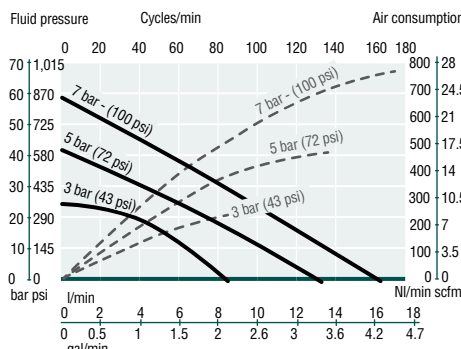
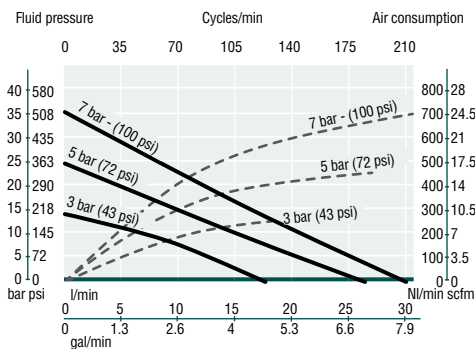
ORDER INFORMATION - Lubricants transfer pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
5:1	172 c.c	Stub	DB-5-172-CSA-B	DB-5-172-CSA-N
5:1	125 c.c	Stub	DB-8-125-CSA-B	DB-8-125-CSA-N

PERFORMANCE CHARTS

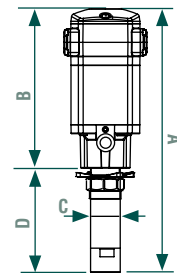
PM35 RATIO 5:1 SAE 10, 21° C (70° F)

PM35 8:1 SAE 10, 21° C (70° F)



— Outlet pressure
 - - - - Air consumption

— Outlet pressure
 - - - - Air consumption



DIMENSIONS

PUMP RATIO	5:1	8:1
A (mm)	469	487
B (mm)	269	287
C (mm)	52	42
D (mm)	200	200

DOUBLE BALL - IN-LINE DESIGN

PM45

AIR MOTOR



OIL TRANSFER PUMPS

3:1 PRESSURE RATIO - 570 CC PER PUMP CYCLE
 6:1 PRESSURE RATIO - 320 CC PER PUMP CYCLE

Pumps designed for transferring mineral and synthetic lubricants, and other non-corrosive fluids.

Flat plate air motor and ball valves pump with in-line design. Flange mounted pumps on wall brackets or drum covers.

Pumps include port for optional pressure relief valve.

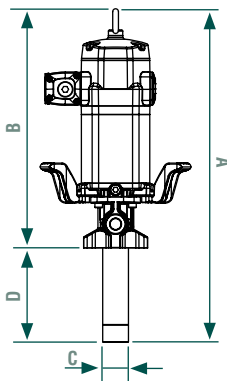
TECHNICAL DATA

	3:1	6:1
Pressure ratio	3:1	6:1
Pump delivery per cycle	570 c.c.	320 c.c.
Fluid delivery at 60 cycle/min	34 l/min (9 gal/min)	19,2 l/min (5 gal/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	24 bar (345 psi)	48 bar (690 psi)
Air motor effective air piston diameter	115 mm (4.5")	115 mm (4.5")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" (F)	1/2" (F)
Fluid outlet thread	3/4" (F)	3/4" (F)
Fluid inlet thread (stub pump)	1-1/2" (F)	1-1/2" (F)
Wetted parts material	Cast iron Nickel / Aluminium / Steel / Polyurethane / NBR	Cast iron / Hard chromed steel / Steel / Polyurethane / NBR

ATEX certified pump II 2G c IIB T4.

ORDER INFORMATION - Lubricants transfer pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
3:1	570 c.c	Stub	DB-3-570-CSA-B	DB-3-570-CSA-N
6:1	320 c.c	Stub	DB-6-320-CSA-B	DB-6-320-CSA-N

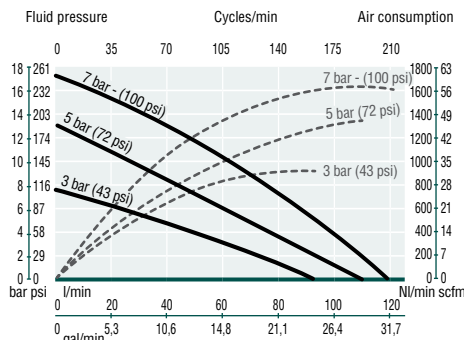


DIMENSIONS

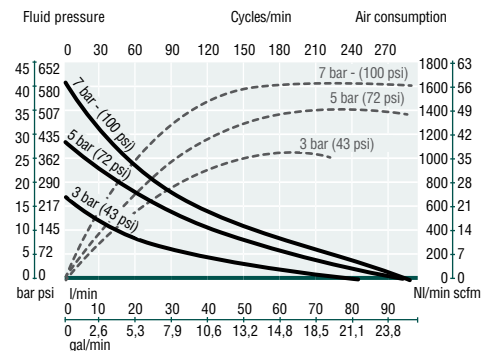
PUMP RATIO	3:1	6:1
A (mm)	702	702
B (mm)	502	502
C (mm)	90	70
D (mm)	200	200

PERFORMANCE CHARTS

PM45 RATIO 3:1 SAE 10, 21 °C (70 °F)



PM45 RATIO 6:1 SAE 10, 21 °C (70 °F)



— Outlet pressure
 - - - Air consumption

— Outlet pressure
 - - - Air consumption

OIL TRANSFER PUMPS

10:1 PRESSURE RATIO - 190 CC PER PUMP CYCLE
 25:1 PRESSURE RATIO - 75 CC PER PUMP CYCLE


Pumps designed for transferring mineral and synthetic lubricants, and other non-corrosive fluids.

Flat plate air motor and ball valves pump with in-line design. Flange mounted pumps on wall brackets or drum covers. Optional height adjustable bung adaptor. 10:1 Pump includes port for optional pressure relief valve.



TECHNICAL DATA

	10:1	25:1
Pressure ratio	10:1	25:1
Pump delivery per cycle	190 c.c.	75 c.c.
Fluid delivery at 60 cycle/min	11,4 l/min (3 gal/min)	4,5 l/min (1.2 gal/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	80 bar (1,115 psi)	200 bar (2,875 psi)
Air motor effective air piston diameter	115 mm (4.5")	115 mm (4.5")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" (F)	1/2" (F)
Fluid outlet thread	3/4" (F)	3/4" (F)
Fluid inlet thread (stub pump)	1-1/2" (F)	1-1/2" (F)
Wetted parts material:	Cast iron / Hard chromed steel / Steel / Polyurethane / NBR	Cast iron / Steel / Hard chromed steel / UHMWPE / NBR

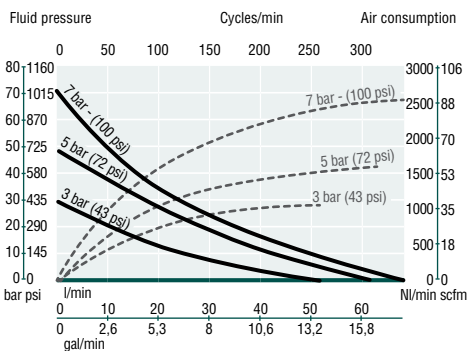
ATEX certified pump  II 2G c IIB T4 (PM45 10:1 pump).

ORDER INFORMATION - Lubricants transfer pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
10:1	190 c.c	Stub	DB-10-190-CSA-B	DB-10-190-CSA-N
25:1	320 c.c	200 l (55 gal)	DB-25-75-CSC-B	DB-25-75-CSC-N

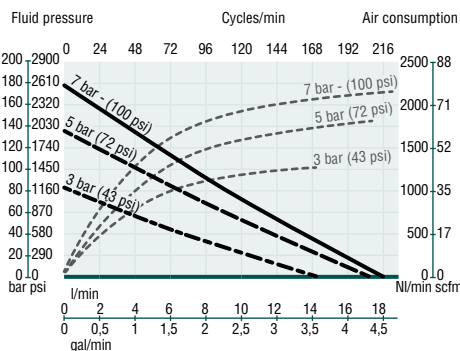
PERFORMANCE CHARTS

PM45 RATIO 10:1 SAE 10, 21 °C (70 °F)

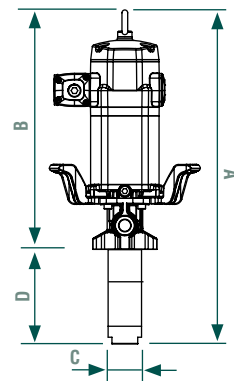


— Outlet pressure
 - - - Air consumption

PM45, RATIO 25:1 SAE 10, 21 °C (70 °F)



— Outlet pressure
 - - - Air consumption



DIMENSIONS

PUMP RATIO	10:1	25:1
A (mm)	702	1357
B (mm)	502	446
C (mm)	54	50
D (mm)	200	855

DOUBLE BALL - IN-LINE DESIGN

PM60

AIR MOTOR



OIL TRANSFER PUMPS

6:1 PRESSURE RATIO - 570 CC PER PUMP CYCLE
 12:1 PRESSURE RATIO - 320 CC PER PUMP CYCLE

Pumps designed for transferring mineral and synthetic lubricants, and other non-corrosive fluids.

Flat plate air motor and ball valves pump with in-line design. Flange mounted pumps on wall brackets or drum covers.

Pumps include port for optional pressure relief valve.

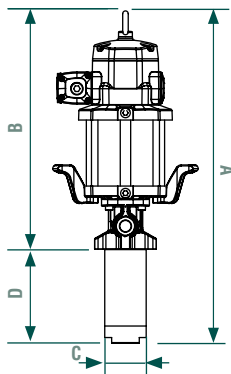
TECHNICAL DATA

Pressure ratio	6:1	12:1
Pump delivery per cycle	570 c.c.	320 c.c.
Fluid delivery at 60 cycle/min	34 l/min (9 gal/min)	19,2 l/min (5 gal/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	48 bar (690 psi)	96 bar (1,380 psi)
Air motor effective air piston diameter	150 mm (6")	150 mm (6")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" (F)	1/2" (F)
Fluid outlet thread	3/4" (F)	3/4" (F)
Fluid inlet thread (stub pump)	1-1/2" (F)	1-1/2" (F)
Wetted parts material:	Cast iron/ Aluminium/ Nickel/ Steel/ Polyurethane/ NBR	Cast iron/ Aluminium/ Nickel/ Steel/ Polyurethane/ NBR

ATEX certified pump  II 2G c IIB T4.

ORDER INFORMATION

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
6:1	570 c.c	Stub	DB-6-570-CSA-B	DB-6-570-CSA-N
12:1	320 c.c	Stub	DB-12-320-CSA-B	DB-12-320-CSA-N

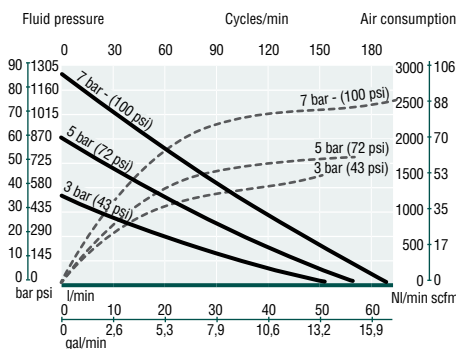


DIMENSIONS

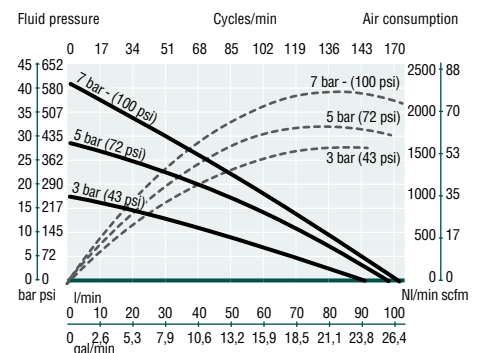
PUMP RATIO	6:1	12:1
A (mm)	716	716
B (mm)	516	516
C (mm)	90	70
D (mm)	200	200

PERFORMANCE CHARTS

PM60, RATIO 12:1 SAE 10, 21 °C (70 °F)



PM60, RATIO 6:1 SAE 10, 21 °C (70 °F)



— Outlet pressure
 - - - Air consumption

— Outlet pressure
 - - - Air consumption

OIL TRANSFER PUMPS - ACCESSORIES

AIR TREATMENT UNITS

PART No.	THREAD	COMPONENT	APPLICATION
240 000	1/4" BSP (FF)	Combined air filter, regulator and lubricator	PM2 pump
240 500		Combined air filter and regulator	
240 201		Air line regulator	
240 200		Air line regulator	
240 300		Air filter	
240 400		Air lubricator	
241 001	1/2" BSP (FF) with 1/2" BSP(M) - 3/8" BSP(F) adaptors	Combined air filter, regulator and lubricator	PM35, PM45 and PM60 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	



240 000



241 001

AIR QUICK COUPLERS AND NIPPLES



253 114



259 014

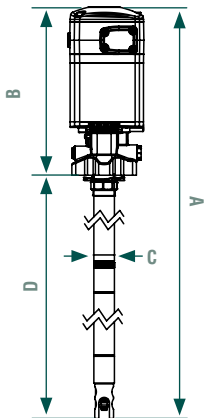
Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
1/4"	PM2	253 114	259 014
3/8"	PM35 pumps	251 438	255 338
1/2"	PM45 & PM60 pumps	251 412	255 312

SHOVEL INLET · IN-LINE DESIGN

PM35

AIR MOTOR



DIMENSIONS 20:1

DRUM TYPE	185 kg	50 kg	18-30 kg
A (mm)	1145	940	780
B (mm)	287	287	287
C (mm)	50	50	50
D (mm)	859	654	494

DIMENSIONS 60:1

DRUM TYPE	185 kg	50 kg	18-30 kg
A (mm)	1.212	1.017	803
B (mm)	287	287	287
C (mm)	35	35	35
D (mm)	925	730	516

GREASE PUMPS

20:1 PRESSURE RATIO - 35 CC PER PUMP CYCLE

60:1 PRESSURE RATIO - 14 CC PER PUMP CYCLE

High and intermediate pressure grease pumps. Pumps can be used with all kind of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift, to aid pump prime, might be required.

Flat plate air motor and shovel inlet pump with in-line design. 60:1 pressure ratio pumps include height adjustable 2" bung adaptor. 20:1 pumps are flange mounted to a drum cover. Both pumps are available with pump tube to fit 18-20 kg (35 lb) pails, and 50 kg (120 lb) and 185 kg (400 lb) drums.

TECHNICAL DATA

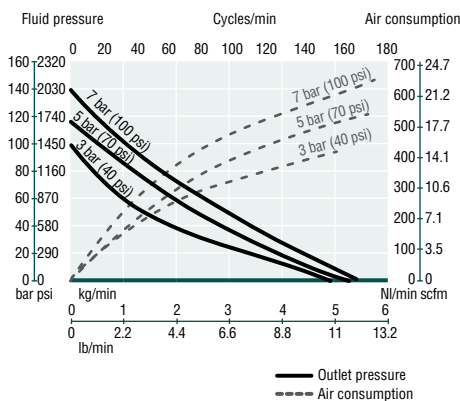
Pressure ratio	20:1	60:1
Pump delivery per cycle	35 c.c.	14 c.c.
Fluid delivery at 90 cycle/min	3 kg/min (6.6 lb/min)	1,2 kg/min (2.7 lb/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	160 bar (2,300 psi)	480 bar (6,900 psi)
Air motor effective air piston diameter	80 mm (3.15")	80 mm (3.15")
Air motor piston stroke	80 mm (3.15")	80 mm (3.15")
Air inlet thread	3/8" (F)	3/8" (F)
Fluid outlet thread	3/8" (F)	3/8" (F)
Wetted parts material:	Cast iron / Hard chromed steel / Steel / NBR / Viton® / Polyurethane / PTFE / Copper	Cast iron / Hard chromed steel / Steel / NBR / Viton® / Polyurethane / PTFE / Copper

ORDER INFORMATION - Grease pumps

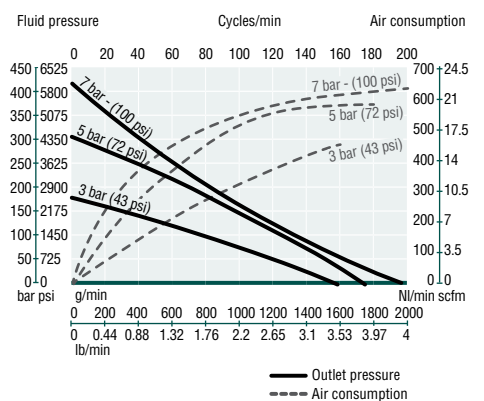
PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
20:1	35 c.c.	18-30 kg / 35 lb pails	-	PD-20-35-CSA-N
20:1	35 c.c.	50 kg / 120 lb drums	-	PD-20-35-CSB-N
20:1	35 c.c.	185 kg / 400 lb drums	-	PD-20-35-CSC-N
60:1	14 c.c.	18-30 kg / 35 lb pails	PD-60-14-CSA-B	PD-60-14-CSA-N
60:1	14 c.c.	50 kg / 120 lb drums	PD-60-14-CSB-B	PD-60-14-CSB-N
60:1	14 c.c.	185 kg / 400 lb drums	PD-60-14-CSC-B	PD-60-14-CSC-N

PERFORMANCE CHARTS

PM35, RATIO 20:1 NGLI-2, 21 °C (70 °F)



PM35, RATIO 60:1 NGLI-2, 21 °C (70 °F)



GREASE TRANSFER PUMP

10:1 PRESSURE RATIO - 156 CC PER PUMP CYCLE

Medium pressure grease transfer pump for use with grease up to NLGI grade 2 consistency.

Flat plate air motor and shovel inlet pump with in-line design. Pump can be flange mounted to a drum cover on an 185 kg (400 lb) open drum.

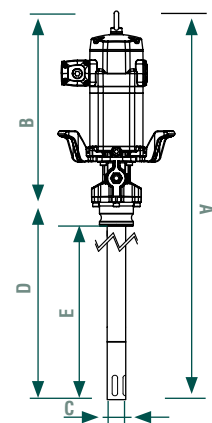
TECHNICAL DATA

Pressure ratio	10:1
Pump delivery per cycle	156 c.c.
Fluid delivery at 60 cycle/min	9 kg/min (20 lb/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	80 bar (1,150 psi)
Air motor effective air piston diameter	115 mm (4.5")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" (F)
Fluid outlet thread	1" (F)
Wetted parts material:	Cast iron / Hard chromed steel / Carbon steel / Zinc plated steel / NBR/ PTFE / Polyurethane / POM



ORDER INFORMATION - Grease pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
10:1	156 c.c.	185 kg / 400 lb drums	PD-10-156-CSC-B	PD-10-156-CSC-N

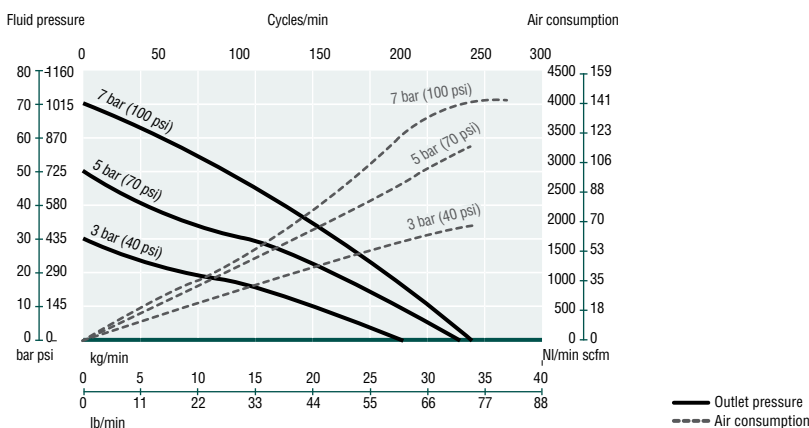


DIMENSIONS

PUMP RATIO	10:1
A (mm)	1.427
B (mm)	502
C (mm)	54
D (mm)	925

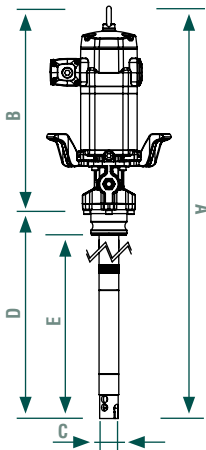
PERFORMANCE CHARTS

PM45, RATIO 10:1 NGLI-2, 21 °C (70 °F)



PM45

AIR MOTOR



DIMENSIONS

DRUM TYPE	185 kg	50 kg	18-30 kg
A (mm)	1.357	1.152	992
B (mm)	502	502	502
C (mm)	50	50	50
D (mm)	855	650	490
E (mm)	-	-	410

GREASE PUMPS

40:1 PRESSURE RATIO - 50 CC PER PUMP CYCLE
 70:1 PRESSURE RATIO - 30 CC PER PUMP CYCLE

High pressure grease pumps. Pumps can be used with all kinds of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift, to aid pump prime, might be required.

Flat plate air motor and shovel inlet pump with in-line design. Pumps are available for cover mount to 50 kg (120 lb) and 185 kg (400 lb) open drums and for horizontal and side mount on grease totes and bags.

TECHNICAL DATA

Pump Ratio	40:1	70:1
Pump delivery per cycle	50 c.c.	35 c.c.
Fluid delivery at 60 cycle/min	2,6 kg/min (5.7 lb/min)	1,9 kg/min (4.2 lb/min)
Air pressure range	1,5 to 8 bar (20 to 115 psi)	1,5 to 8 bar (20 to 115 psi)
Maximum fluid pressure	320 bar (920 psi)	560 bar (8,050 psi)
Air motor piston effective diameter	115 mm (4.5")	115 mm (4.5")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" (F)	1/2" (F)
Fluid outlet thread	1/2" (F)	1/2" (F)
Wetted parts materials	Cast iron / Steel / Hard chromed Steel / UHMWPE / NBR / PTFE	Cast iron / Steel / Hard chromed Steel / UHMWPE / NBR / PTFE

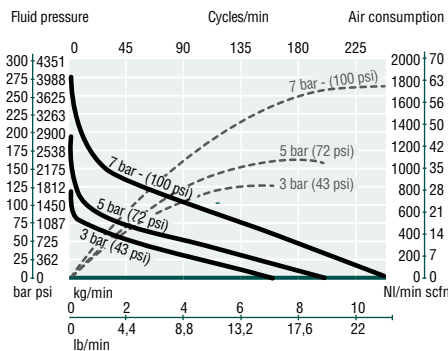
ORDER INFORMATION - Grease pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
40:1	50 c.c.	18-30 kg / 35 lb pails	PD-40-50-CSA-B*	PD-40-50-CSA-N*
40:1	50 c.c.	50 kg / 120 lb drums	PD-40-50-CSB-B	PD-40-50-CSB-N
40:1	50 c.c.	185 kg / 400 lb drums	PD-40-50-CSC-B	PD-40-50-CSC-N
70:1	30 c.c.	18-30 kg / 35 lb pails	PD-70-30-CSA-B*	PD-70-30-CSA-N*
70:1	30 c.c.	50 kg / 120 lb drums	PD-70-30-CSB-B	PD-70-30-CSB-N
70:1	30 c.c.	185 kg / 400 lb drums	PD-70-30-CSC-B	PD-70-30-CSC-N

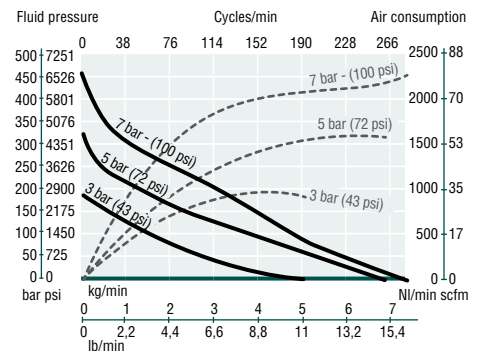
*Pump includes 3" camlock adaptor part No. 753 110

PERFORMANCE CHARTS

PM45 RATIO 40:1 NGLI-2, 21° C (70° F)



PM45 RATIO 70:1 NGLI-2, 21° C (70° F)



— Outlet pressure
 - - - - Air consumption

— Outlet pressure
 - - - - Air consumption

GREASE TRANSFER PUMPS

3:1 PRESSURE RATIO - 850 CC PER PUMP CYCLE
 12:1 PRESSURE RATIO - 300 CC PER PUMP CYCLE

Intermediate and low pressure grease transfer pumps. Pumps can be used with all kinds of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift, to aid pump prime, might be required. Flat plate air motor and shovel inlet pump with in-line design. Stub pumps can be used with 185 kg (400 lb) drums when mounted to a Power Ram. 12:1 pumps can also be used mounted to a grease tote or bag.

TECHNICAL DATA

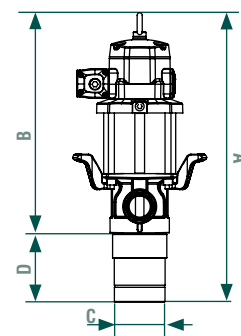
Pump Ratio	3:1	12:1
Pump delivery per cycle	850 c.c.	300 c.c.
Fluid delivery at 60 cycle/min	45 kg/min (100 lb/min)	15 kg/min (33 lb/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	21 bar (300 psi)	84 bar (1,200 psi)
Air motor piston effective diameter	150 mm (6")	150 mm (6")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" (F)	1/2" (F)
Fluid outlet thread	2" (F)	1" (F)
Wetted parts materials	Steel / Hard chromed steel / Aluminum / PTFE / NBR / FKM / Polyurethane	Cast iron / Steel / Hard chromed steel / UHMWPE / NBR / PTFE / Polyurethane



ORDER INFORMATION - Grease pumps

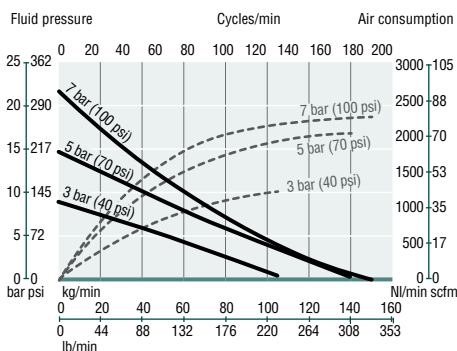
PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
3:1	850 c.c	Stub	PD-3-850-CSA-B	PD-3-850-CSA-N
12:1	300 c.c	Stub	PD-12-300-CSA-B*	PD-12-300-CSA-N*

*Pump includes 3" camlock adaptor Part No. 753 110

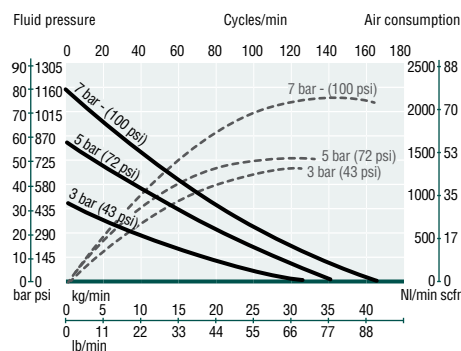


PERFORMANCE CHARTS

PM60, RATIO 3:1 NGLI-2, 21 °C (70 °F)



PM60, RATIO 12:1 NGLI-2, 21 °C (70 °F)



— Outlet pressure
 - - - Air consumption

— Outlet pressure
 - - - Air consumption

DIMENSIONS

PUMP RATIO	3:1	10:1
A (mm)	684	742
B (mm)	520	516
C (mm)	120	70
D (mm)	164	226

SHOVEL INLET · IN-LINE DESIGN

PM60

AIR MOTOR



GREASE PUMPS

80:1 PRESSURE RATIO - 50 CC PER PUMP CYCLE

High pressure grease pumps. Pumps can be used with all kinds of greases up to NLGI grade 2 consistency. Higher consistency grease can be pumped but a Power Ram or pump lift, to aid pump prime, might be required.

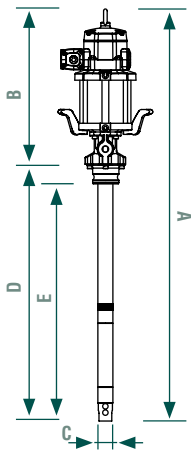
Flat plate air motor and shovel inlet pump with in-line design. Pumps are available for cover mount to 50 kg (120 lb) and 185 kg (400 lb) open drums.

TECHNICAL DATA

Pressure ratio	80:1
Pump delivery per cycle	50 c.c.
Fluid delivery at 60 cycle/min	2,6 kg/min (5.7 lb/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	560 bar (8,000 psi)
Air motor effective air piston diameter	150 mm (6")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" (F)
Fluid outlet thread	1/2" (F)
Wetted parts material:	Cast iron / Steel / Hard chromed Steel / UHMWPE / NBR / PTFE

ORDER INFORMATION - Grease pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
40:1	50 c.c.	50 kg / 120 lb drums	PD-80-50-CSB-B	PD-80-50-CSB-N
40:1	50 c.c.	185 kg / 400 lb drums	PD-80-50-CSC-B	PD-80-50-CSC-N

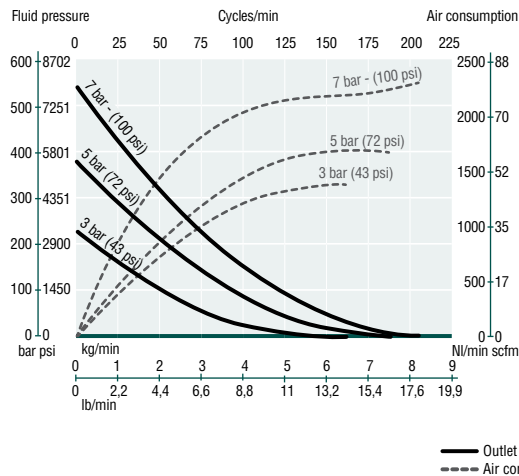


DIMENSIONS

DRUM TYPE	50 kg	185 kg
A (mm)	1.166	1.371
B (mm)	516	516
C (mm)	50	50
D (mm)	650	855

PERFORMANCE CHARTS

PM60 RATIO 80:1 NGLI-2, 21 °C (70 °F)



GREASE TRANSFER PUMPS

35:1 PRESSURE RATIO - 156 CC PER PUMP CYCLE

Medium pressure grease transfer pump for use with grease up to NLGI grade 2 consistency.

Flat plate air motor and shovel inlet pump with in-line design. Pump can be flange mounted to a drum cover on an 185 kg (400 lb) open drum.



TECHNICAL DATA

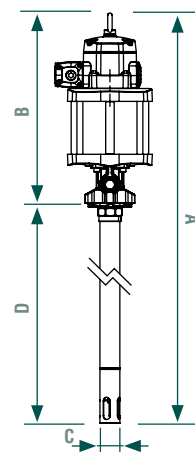
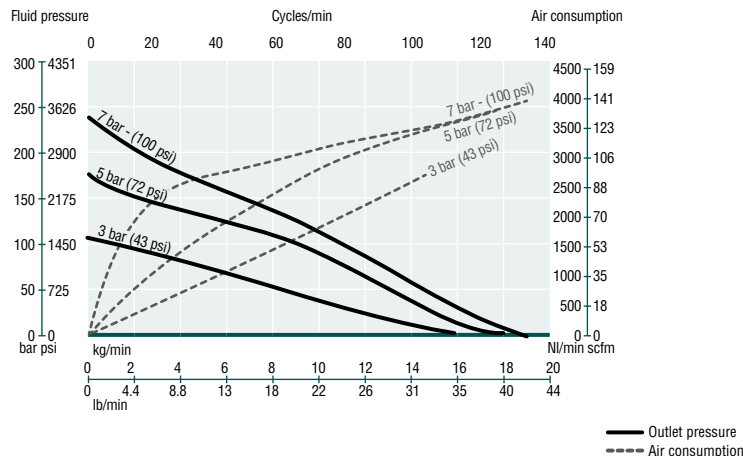
Pressure ratio	35:1
Pump delivery per cycle	156 c.c.
Fluid delivery at 60 cycle/min	9 kg/min (20 lb/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	245 bar (3,500 psi)
Air motor effective air piston diameter	200 mm (8")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" (F)
Fluid outlet thread	1/2" (F)
Wetted parts material	Cast iron / Hard chromed steel / Carbon steel / Zinc plated steel / NBR / PTFE / Polyurethane / POM

ORDER INFORMATION - Grease pumps

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
35:1	156 c.c.	50 kg / 120 lb drums	PD-80-50-CSB-B	PD-35-156-CSB-N
35:1	156 c.c.	185 kg / 400 lb drums	PD-35-156-CSC-B	PD-35-156-CSC-N

PERFORMANCE CHARTS

PM80, RATIO 35:1 NGLI-2, 21 °C (70 °F)



DIMENSIONS

DRUM TYPE	50 kg	185 kg
A (mm)	1.254	1.439
B (mm)	514	514
C (mm)	54	54
D (mm)	740	925

GREASE TRANSFER PUMPS - ACCESSORIES

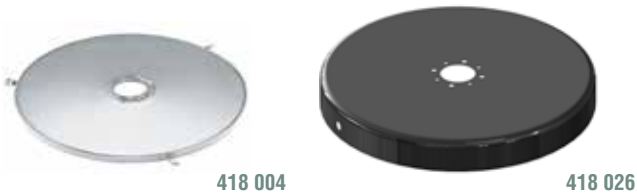
AIR TREATMENT UNITS

PART No.	THREAD	COMPONENT	APPLICATION
241 001	1/2" BSP (FF) with 1/2" BSP(M) - 3/8" BSP(F) adaptors	Combined air filter, regulator and lubricator	PM35, PM45, PM60 and PM80 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	



241 001

DRUM COVERS

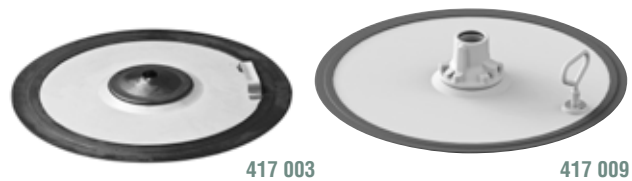


418 004

418 026

Very solid construction. 2" Standard duty drum cover with solid construction and flanged heavy duty drum cover manufactured in heavy steel to withstand hard usage.

FOLLOWER PLATES



417 003

417 009

Follower plates eliminate channeling and air pockets, keep lubricant free from contaminants, remove all grease from the drum and aid pump prime.

PART No.	DRUM TYPE	DRUM EXT. Ø (MIN. - MAX.)	PUMP MOUNTING
PM35 STANDARD DUTY DRUM COVERS			
418 013	12,5 to 18 kg (30 to 40 lb) pails	265 - 310 mm	2" BSP (F)
418 002	20 kg (44 lb) pails	285 - 330 mm	2" BSP (F)
418 016	50 kg (20 lb) drums	350 - 395 mm	2" BSP (F)
418 004	50 kg (120 lb) drums	360 - 405 mm	2" BSP (F)
418 006	185 kg (400 lb) drums	565 - 610 mm	2" BSP (F)
PM45 & PM60 HEAVY DUTY DRUM COVERS			
418 026	185 kg (400 lb) drums	620 - 580 mm	Flange
418 017	50 kg (120 lb) drums	395 - 350 mm	Flange
PM45 10:1 HEAVY DUTY DRUM COVERS			
418 026	185 kg (400 lb) drums	620 - 580 mm	Flange
PM80 35:1 HEAVY DUTY DRUM COVERS			
418 004	50 kg (120 lb) drums	360 - 405 mm	2" BSP (F)
418 026	185 kg (400 lb) drums	620 - 580 mm	Flange

PART No.	DRUM TYPE	DRUM EXT. Ø (MIN. - MAX.)
PM35 STANDARD DUTY FOLLOWER PLATES		
417 006	12,5 (30 lb) pails	230 - 260 mm
417 001	12,5 to 18 kg (30 to 40 lb) pails	260 - 298 mm
417 005	20 kg (44 lb) pails	300 - 340 mm
417 002	50 kg (120 lb) drums	330 - 370 mm
417 003	50 kg (120 lb) drums	360 - 405 mm
417 004	185 kg (400 lb) drums	550 - 590 mm
PM45 & PM60 HEAVY DUTY FOLLOWER PLATES		
417 009	185 kg (400 lb) drums	550 - 590 mm
417 010	50 kg (120 lb) drums	360 - 305 mm
417 011	50 kg (120 lb) drums	370 - 330 mm
PM45 10:1 HEAVY DUTY FOLLOWER PLATES		
417 017	185 kg (400 lb) drums	550 - 590 mm
PM80 35:1 HEAVY DUTY FOLLOWER PLATES		
417 017	185 kg (400 lb) drums	550 - 590 mm
417 018	50 kg (120 lb) drums	330 - 370 mm

GREASE TRANSFER PUMPS - ACCESSORIES



251 412



255 312

AIR QUICK COUPLERS AND NIPPLES

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
3/8"	PM35 pumps	253 138	259 038
1/2"	PM45, PM60 and PM80 pumps	251 412	255 312

PACKAGES FOR GREASE TRANSFER PUMPS



534 121

PNEUMATIC INDUCTOR FOR 185 KG DRUMS

Double post pneumatic inductor with automatic Power RAM controls for 185 kg (400 lb) drums. Suitable for use with high viscosity fluids, it helps with pump priming and the follower plate prevents fluid contamination.

PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION	FOLLOWER PLATE TYPE
534 321	PM60	3:1	850 c.cc	185 kg (400 lb)	Double lip
534 421	PM45	40:1	50 c.c.	185 kg (400 lb)	Double lip
5347 21	PM45	70:1	35 c.c.	185 kg (400 lb)	Double lip
534 121	PM60	12:1	300 c.c.	185 kg (400 lb)	Double lip
534 821	PM60	80:1	50 c.c.	185 kg (400 lb)	Double lip
534 421.001	PM45	40:1	50 c.c.	185 kg (400 lb)	Double lip
534 721.001	PM45	70:1	35 c.c.	185 kg (400 lb)	Double lip
534 121.001	PM60	12:1	300 c.c.	185 kg (400 lb)	Double lip
534 821.001	PM60	80:1	50 c.c.	185 kg (400 lb)	Double lip



534 811

PNEUMATIC PUMP HOIST AND GRAVITY INDUCTOR FOR 185 KG DRUMS

Single post pneumatic inductor for 185 kg drums. Robust construction and easy to use, assists pump priming. Pump air supply and up/down movement controlled by a pneumatic valve.

PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION
534 611	PM35	60:1	14 c.c.	185 kg (400 lb)
534 411	PM45	40:1	50 c.c.	185 kg (400 lb)
534 711	PM45	70:1	35 c.c.	185 kg (400 lb)
534 8 11	PM60	80:1	50 c.c.	185 kg (400 lb)

DOUBLE BALL - IN-LINE DESIGN

PM80

AIR MOTOR

ULTRA-HIGH PRESSURE PUMP

45:1 PRESSURE RATIO - 125 CC PER PUMP CYCLE




Pump designed for hydraulic oil supply in accumulators in oil rig Blow-Out Prevention (BOP) or Wireline Valve systems.

These systems consist in a series of safety valves, which can be opened and closed to control the uncontrolled flow of formation liquids into the wellhead. These are large heavy equipment, and in the event of kick, these pumps are used to supply hydraulic oil to close the valves, preventing the combustible formation liquids escaping to atmosphere through the wellhead.

High pressure hydraulic fluids (207 bar (3,000 psi) nominal pressure) are used for closing these valves in a fast and safe mode.

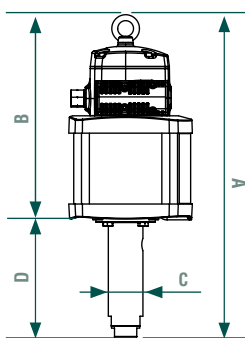
TECHNICAL DATA

Pump Ratio	45:1
Pump delivery per cycle	125 cc
Fluid delivery at 60 cycle/min	7,5 l/min (2 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	315 bar (4,500 psi)
Air motor piston effective diameter	200 mm (8")
Air motor piston stroke	100 mm (4")
Air inlet thread	3/4" NPT (F)
Fluid outlet thread	3/4" NPT (F)
Fluid inlet thread	1" NPT (F)
Fluid outlet thread (gauge / bleeding)	-
Wetted parts materials	Zinc plated steel / Hard chromed steel / Carbon steel / PU.
Pump type	Double ball stub pump

ATEX certified pump  II 2G Ex h IIB T4 Gb.

ORDER INFORMATION - Hydraulic oil supply pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	NPT THREADS
45:1	125 c.c	Stub	DB-45-125-CSA-N

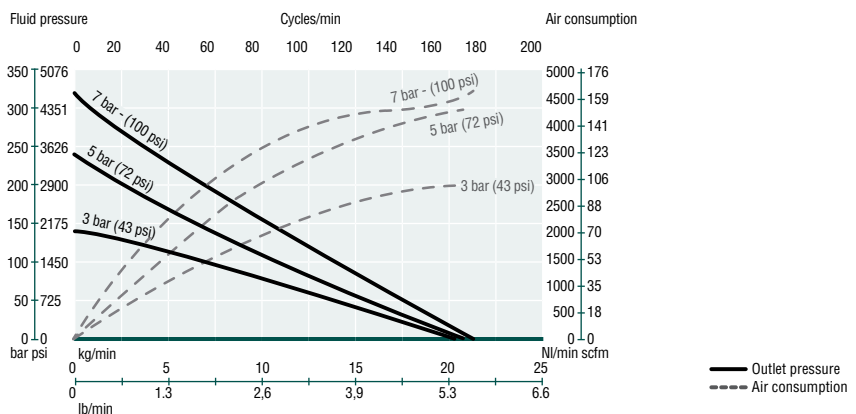


DIMENSIONS

PUMP RATIO	45:1
A (mm)	652
B (mm)	415
C (mm)	70
D (mm)	237

PERFORMANCE CHARTS

PM80 RATIO 45:1 NLGI-2 GREASE 21 °C (70 °F)




ULTRA-HIGH PRESSURE PUMPS

100:1 PRESSURE RATIO - 34 CC PER CYCLE

High pressure pumps used for wellhead valve integrity services such as lubrication and sealant injection in API 6A / 6D valves in wellheads, Christmas trees, BOP systems and manifolds.

TECHNICAL DATA

Pump Ratio	100:1
Pump delivery per cycle	34 cc
Fluid delivery at 60 cycle/min	2 l/min (68 fl.oz/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	700 bar (10,000 psi)
Air motor piston effective diameter	150 mm (6")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" NPT (F)
Fluid outlet thread	3/4" NPT (F)
Fluid inlet thread	-
Fluid outlet thread (gauge / bleeding)	1/4" NPT (F)
Wetted parts materials	Ductile iron / Hard chromed steel / Carbon steel / Viton / Zinc plated steel / Buna-N / PTFE / POM Flanged
Pump type	Dynamic primer pump

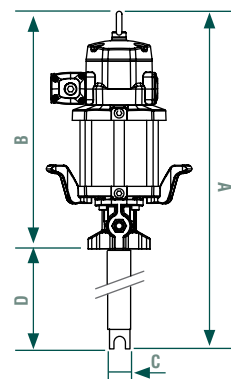
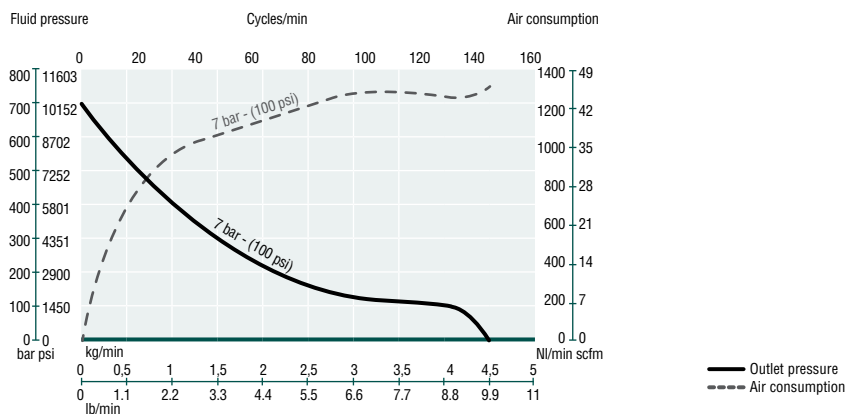
ATEX certified pump  II 2D Ex h IIB T6...T5 Gb.
II 2D Ex h IIIB T70°C...T95°C Db.

ORDER INFORMATION - Ultra high pressure pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	NPT THREADS
100:1	34 c.c	30 kg / 35 lb pails	PD-100-34-CSA-N
100:1	34 c.c	50 kg / 120 lb drums	PD-100-34-CSB-N
100:1	34 c.c	180 kg / 400 lb drums	PD-100-34-CSC-N

PERFORMANCE CHARTS

PM60 RATIO 100:1 NLGI-2 GREASE 21 °C (70 °F)

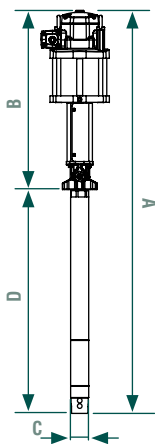


DIMENSIONS

DRUM TYPE	30 kg	50 kg	180 kg
A (mm)	1.006	1.166	1.371
B (mm)	516	516	516
C (mm)	50	50	50
D (mm)	490	650	855

PM80

AIR MOTOR



DIMENSIONS

DRUM TYPE	50 kg	180 kg
A (mm)	1.390	1.540
B (mm)	684	684
C (mm)	70	70
D (mm)	700	855

ULTRA-HIGH PRESSURE PUMPS


168:1 PRESSURE RATIO - 34 CC PER CYCLE
 200:1 PRESSURE RATIO - 28 CC PER CYCLE

Ultra-High pressure pumps designed for grease injection in wireline pressure control equipment. Can also be used for wellhead sealant injection for valve integrity services.

In wireline pressure control equipment, the high-pressure grease / sealant seals the well pressure while the wirelines are operated (lowering/raising tools and equipment, logging, data collection etc.)

TECHNICAL DATA

Pump Ratio	168:1	200:1
Pump delivery per cycle	34 cc	28 cc
Fluid delivery at 60 cycle/min	2 l/min (68 fl.oz/min)	1,7 l/min (56 fl.oz./min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	1.180 bar (16,900 psi)	1.400 bar (20,000 psi)
Air motor piston effective diameter	200 mm (8")	200 mm (8")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	3/4" NPT (F)	3/4" NPT (F)
Fluid outlet thread	13/16 -16 UNF, for coned and threaded 9/16" tube.	13/16 -16 UNF, for coned and threaded 9/16" tube.
Fluid inlet thread	-	-
Fluid outlet thread (gauge / bleeding)	7/16-20 UNF, for coned and threaded 1/4" tube.	7/16-20 UNF, for coned and threaded 1/4" tube.
Wetted parts materials	Ductile iron / Carbon steel / Bronze / PEEK / PTFE	Ductile iron / Carbon steel / Bronze / PEEK / PTFE
Pump type	Dynamic primer pump	Dynamic primer pump

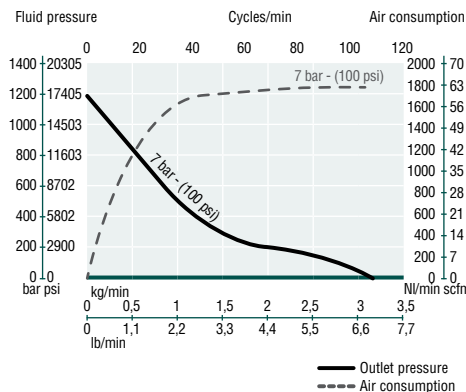
ATEX certified pump  II 2D Ex h IIB T6...T5 Gb.
 II 2D Ex h IIIB T70 °C...T95 °C Db.

ORDER INFORMATION - Ultra high pressure pump

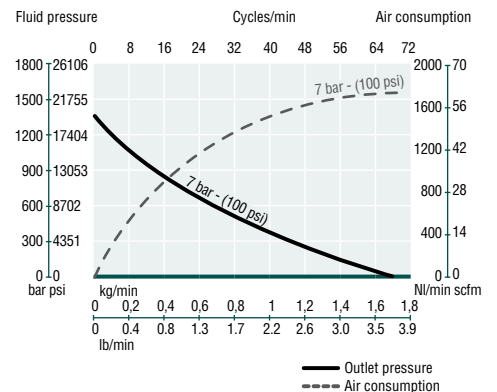
PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	NPT THREADS
168:1	625 c.c	50 kg / 120 lb pails	PD-168-34-CSB-N
168:1	625 c.c	180 kg / 400 lb drums	PD-168-34-CSC-N
200:1	442 c.c	50 kg / 120 lb pails	PD-200-28-CSB-N
200:1	442 c.c	180 kg / 400 lb drums	PD-200-28-CSC-N

PERFORMANCE CHARTS

PM80, RATIO 168:1 NGLI-2, 21 °C (70 °F)



PM60, RATIO 200:1 NGLI-2, 21 °C (70 °F)



ULTRA-HIGH PRESSURE PUMP


240:1 PRESSURE RATIO - 52 CC PER CYCLE

Ultra-High pressure grease pump designed for grease injection in wireline pressure control equipment.

The grease / sealant injected at very high pressure seals the well pressure while the wirelines are operated (lowering/raising of tools & equipment, logging, data collection etc.)

TECHNICAL DATA

Pump Ratio	240:1
Pump delivery per cycle	52 cc
Fluid delivery at 60 cycle/min	3 l/min (0.8 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	1.680 bar (24,400 psi)
Air motor piston effective diameter	250 mm (10")
Air motor piston stroke	150 mm (6")
Air inlet thread	3/4" NPT (F)
Fluid outlet thread	13/16 -16 UNF, for coned and threaded 9/16" tube.
Fluid inlet thread	3/4" NPT. Includes suction filter.
Wetted parts materials	Carbon steel/ Copper/ Hard chromed steel/ PEEK/ PTFE/ PU
Pump type	Double ball stub pump

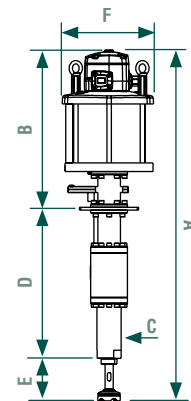
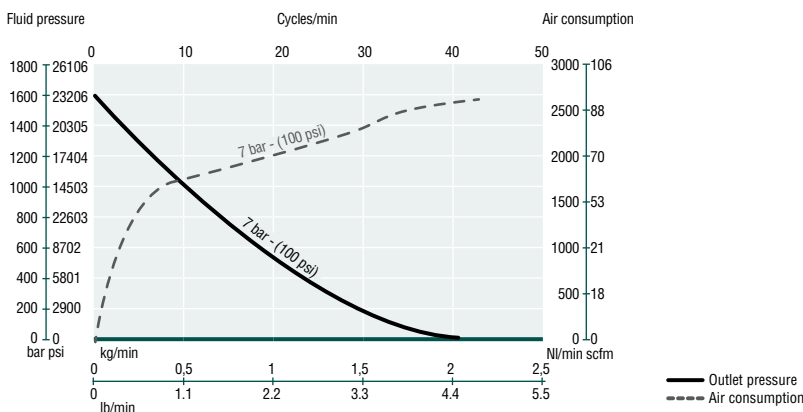
ATEX certified pump  II 2G Ex h IIB T4 Gb.

ORDER INFORMATION - Ultra high pressure pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	NPT THREADS
240:1	52 c.c	Stub	DB-240-52-CSA-N

PERFORMANCE CHARTS

PM100 RATIO 240:1 NLGI-2 GREASE 21 °C (70 °F)



DIMENSIONS

PUMP RATIO	240:1
A (mm)	1.275
B (mm)	582
C (mm)	88
D (mm)	560
E (mm)	133
F (mm)	332

ULTRA-HIGH PRESSURE PUMPS - ACCESSORIES

AIR TREATMENT UNITS

PART No.	THREAD	COMPONENT	APPLICATION
241 001	1/2" BSP (FF) with 1/2" BSP(M) - 3/8" BSP(F) adaptors	Combined air filter, regulator and lubricator	PM60 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	
242 102	3/4" BSP (FF)	Combined air filter, regulator and lubricator	PM60 and PM80 pumps
242 202		Air line regulator	
242 302		Air filter	
242 402		Air lubricator	



PM45, PM60 & PM80 HEAVY DUTY DRUM COVERS AND FOLLOWER PLATES



418 026



418 017



417 009



417 010

Covers are made from heavy steel gauge to withstand hard usage. Cover flange provides rigidity and maintains solid position on drum. Grease pump mounts in centre of cover with four screws.

Follower plates eliminate channeling and air pockets, keep lubricant free from contaminants, remove all grease from the drum and aid pump prime. HD follower plates are manufactured in galvanized steel and has a central part in aluminum that adjusts to the pump tube using O'ring to create a perfect seal.

PART No.	DRUM TYPE	DRUM EXT. Ø (MIN. - MAX.)
FOR PM45 & PM60 PUMPS		
418 026	185 kg (400 lb drums)	620 - 580 mm
418 017	50 kg (120 lb drums)	395 - 350 mm
FOR PM80 PUMPS		
418 026	185 kg (400 lb drums)	620 - 580 mm
418 018	50 kg (120 lb drums)	395 - 350 mm

PART No.	DRUM TYPE	DRUM EXT. Ø (MIN. - MAX.)
FOR PM45 & PM60 PUMPS		
417 009	185 kg (400 lb drums)	590 - 550 mm
417 010	50 kg (120 lb drums)	360 - 305 mm
417 011	50 kg (120 lb drums)	370 - 330 mm
FOR PM80 PUMPS		
417 015	185 kg (400 lb drums)	590 - 550 mm
417 016	50 kg (120 lb drums)	370 - 330 mm

AIR QUICK COUPLERS AND NIPPLES



251 412



255 312

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
1/2"	PM60 and PM80 pumps	251 412	255 312

PM80 FLOOR STAND KIT FOR PM80 PUMPS



Floor stand suction kits. It is the recommended way of installing a pump when used with ink tanks, silos, IBC or any other type of stationary containers.

PART No.	CONNECTION
534 906	Floor stand suction kits for PM80

ULTRA-HIGH PRESSURE PUMPS - ACCESSORIES



3" CAMLOCK ADAPTOR

PART No.	CONNECTION
753 110	Flanged camlock male adaptor for PM45 & PM60



CAMLOCK KIT FOR PM80 PUMPS

PART No.	CONNECTION
534 900	Flanged camlock male adaptor for PM80

PACKAGES FOR ULTRA-HIGH PRESSURE PUMPS



PNEUMATIC INDUCTOR FOR 185 KG DRUMS

Double post pneumatic inductor with automatic Power RAM controls for 185 kg (400 lb) drums. Suitable for use with high viscosity fluids, it helps with pump priming and the follower plate prevents fluid contamination.

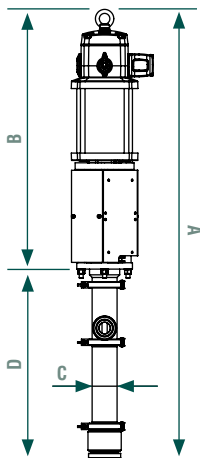
PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION	FOLLOWER PLATE TYPE
534 921	PM60	100:1	34 c.c.	185 kg (400 lb)	Double lip

PM60

AIR MOTOR



DB-5-1072-SSA-T



QKD PUMPS

5:1 PRESSURE RATIO - 1.072 CC PER PUMP CYCLE
 10:1 PRESSURE RATIO - 650 CC PER PUMP CYCLE

Ultra clean piston pumps with quick-knock-down (QKD) design for use in hygienic applications. The quick-knock-down (QKD) design assures that the pump can be easily disassembled and reassembled for a fast and efficient cleaning of all internal pump components. Manufactured in high quality materials that meet FDA specifications: stainless steel 316 and food grade UHMWPE seals.

Available in long version for open top 220 l (55 gal) drums or short (stub) version for use with totes, IBCs or any other container with outlet valves.

TECHNICAL DATA

	5:1	10:1
Pressure ratio	5:1	10:1
Pump delivery per cycle	1.072 c.c.	650 c.c.
Air pressure range	3 to 7 bar (43 to 100 psi)	3 to 7 bar (43 to 100 psi)
Maximum fluid pressure	35 bar (500 psi)	70 bar (1,000 psi)
Air motor effective air piston diameter	150 mm (6")	150 mm (6")
Air motor piston stroke	150 mm (6")	150 mm (6")
Air inlet thread	1/2" NPSM	1/2" NPSM
Fluid outlet thread	3" Tri-clamp	2" Tri-clamp
Fluid inlet thread (stub pumps)	4" Tri-clamp	3" Tri-clamp
Wetted parts material:	AISI 316 Stainless Steel, food grade UHMWPE seals, acetal, FKM	AISI 316 Stainless Steel, food grade UHMWPE seals, acetal, FKM

ORDER INFORMATION - Stainless Steel QKD pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	TRI-CLAMP CONNECTION
5:1	1.072 c.c.	Stub	DB-5-1072-SSA-T
5:1	1.072 c.c.	220 l (55 gal) drum length	DB-5-1072-SSC-T
10:1	650 c.c.	Stub	DB-10-650-SSA-T
10:1	650 c.c.	220 l (55 gal) drum length	DB-10-650-SSC-T

DIMENSIONS 5:1

DRUM TYPE	STUB	200 L
A (mm)	1.430	2.058
B (mm)	778	778
C (mm)	76	76
D (mm)	652	1.280

DIMENSIONS 10:1

DRUM TYPE	STUB	200 L
A (mm)	1.463	2.063
B (mm)	780	778
C (mm)	102	102
D (mm)	685	1.285

QKD PUMPS - ACCESSORIES

AIR TREATMENT UNITS

241 001	1/2" BSP (FF) with 1/2" BSP(M) - 3/8" BSP(F) adaptors	Combined air filter, regulator and lubricator	PM60 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	



AIR QUICK COUPLERS AND NIPPLES



251 412



255 312

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
1/2"	PM60 pumps	251 412	255 312

PUMP CART FOR STUB PUMPS



391 027

Pump not included.

PUMP LIFT FOR 220 L (50 US GAL) DRUMS.



391 026

Pump not included.

DOUBLE BALL · DIVORCED DESIGN

PM45

AIR MOTOR

INK TRANSFER PUMP

17:1 PRESSURE RATIO - 125 CC PER PUMP CYCLE



Medium pressure divorced transfer pump.

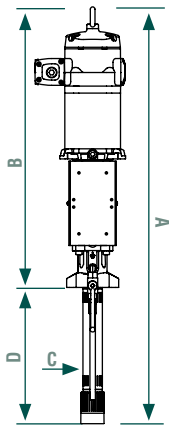
Flat plate air motor, power-piston pumps with divorced design. These pumps can be used fixed to a follower plate with a pump lift or a power ram unit.

TECHNICAL DATA

Pressure ratio	17:1
Pump delivery per cycle	125 cc
Fluid delivery at 60 cycle/min	7,5 l/min (2 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	119 bar (1,700 psi)
Air motor effective air piston diameter	115 mm (4.5")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" NPT(F)
Fluid outlet thread	3/4" NPT(F)
Wetted parts material	Carbon steel / Cast iron / UHMWPE / Bronze / Acetal / FKM

ORDER INFORMATION - Transfer divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
17:1	125 c.c	Stub	-	DB-17-125-CSC-N

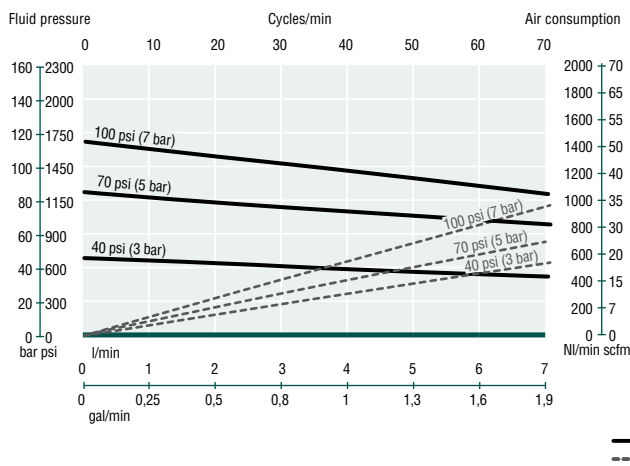


DIMENSIONS

PUMP RATIO	17:1
A (mm)	1.073
B (mm)	723
C (mm)	60
D (mm)	350

PERFORMANCE CHARTS

PM45, RATIO 17:1 SAE 10, 21 °C (70 °F)



INK TRANSFER PUMPS

28:1 PRESSURE RATIO - 70 CC PER PUMP CYCLE

Flat plate air motor, power-piston pumps with divorced design. This pump can be used fixed to a follower plate with a pump lift or a power ram unit.

TECHNICAL DATA

Pressure ratio	28:1
Pump delivery per cycle	70 cc
Fluid delivery at 60 cycle/min	4,2 l/min (1.11 gal/min)
Air pressure range	1.5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	196 bar (2,283 psi)
Air motor effective air piston diameter	150 mm (6")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" BSP (F)
Fluid outlet thread	3/4" BSP(F)
Wetted parts material	Carbon steel / Aluminium / UHMWPE / Brass / Cooper / Viton® / PU

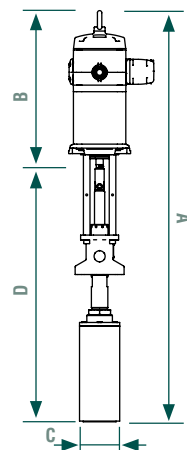
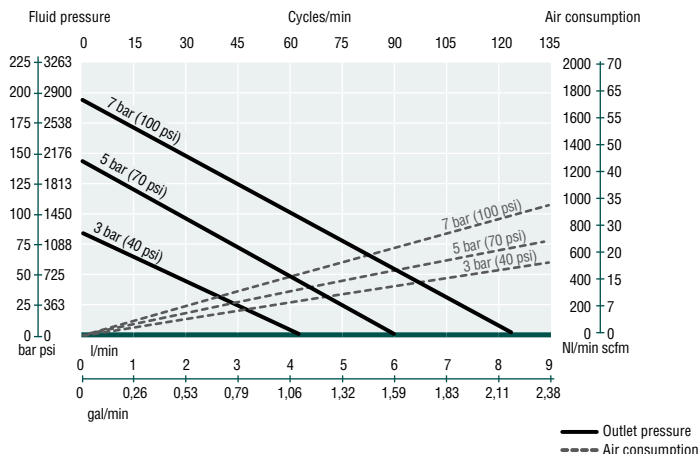


ORDER INFORMATION - Transfer divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
28:1	70 c.c	Stub	PD-28-70-CSA-B	PD-28-70-CSA-N

PERFORMANCE CHARTS

PM45, RATIO 28:1 SAE 10, 21 °C (70 °F)



DIMENSIONS

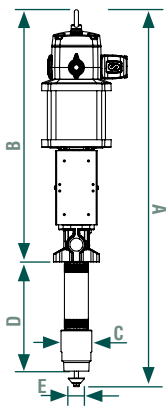
PUMP RATIO	28:1
A (mm)	1.125
B (mm)	722
C (mm)	110
D (mm)	403
E (mm)	-

PM60

AIR MOTOR

SHOVEL INLET PISTON PUMPS

12:1 PRESSURE RATIO - 290 CC PER PUMP CYCLE



DIMENSIONS

PUMP RATIO	12:1
A (mm)*	1.205 - 1.105
B (mm)	735
C (mm)	90
D (mm)	320
E (mm)	48

* Maximum and minimum value depending on the primer rod extension

Medium pressure offset ink pumps. These divorced design pumps have a 6" diameter flat plate air motor and a shovel inlet valve. They are ideal for distribution and mixing systems particularly when ink is pumped from standard drums or stationary containers. They can also be used with other viscous fluids compatible with the pump construction materials.

These pumps can be installed on Power RAM or pump lifts with a follower plate for 200 kg (440 lb) drums or they can be used with a floor stand suction kit for totes.

TECHNICAL DATA

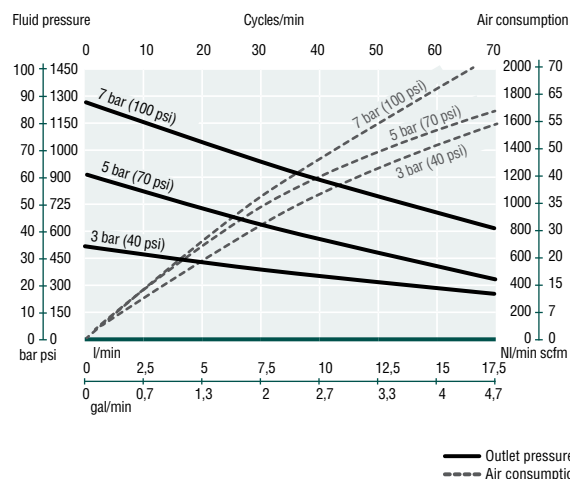
Pressure ratio	12:1
Pump delivery per cycle	290 cc
Fluid delivery at 60 cycle/min	17,4 l/min (4.6 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	80 bar (1,200 psi)
Air motor effective air piston diameter	150 mm (6")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" NPT(F)
Fluid outlet thread	1" NPT(F)
Fluid inlet thread	2 1/2" BSP(M)
Wetted parts material	Carbon steel / Cast iron / UHMWPE / Bronze / Acetal / Viton®

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
12:1	290 c.c	Stub	PD-12-290-CSA-B	PD-12-290-CSA-N

PERFORMANCE CHARTS

PM60 RATIO 12:1 SAE 10, 21 °C (70 °F)



SHOVEL INLET PISTON PUMPS

20:1 PRESSURE RATIO - 290 CC PER PUMP CYCLE

PM80 AIR MOTOR

Medium pressure ink pumps. These divorced design pumps have an 8" diameter flat plate air motor and a shovel inlet valve. They are the most efficient solution for ink supply even for long distance multipress installations. They can also be used with other viscous fluids compatible with the pump construction materials.

These pumps shall be installed on a Power RAM with a follower plate to aid pump priming or they can be mounted onto a floor stand suction kit for totes and tanks.



TECHNICAL DATA

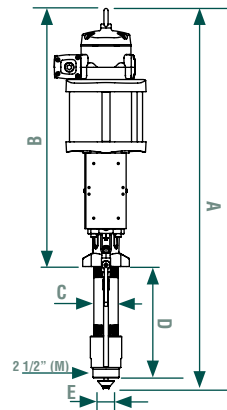
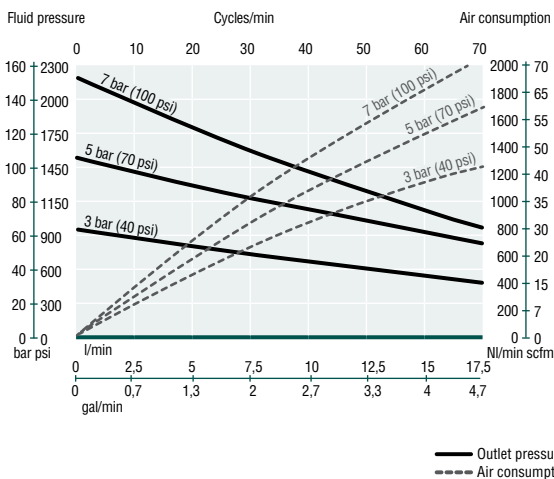
Pressure ratio	20:1
Pump delivery per cycle	290 cc
Fluid delivery at 60 cycle/min	17,4 l/min (4.6 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	140 bar (2,000 psi)
Air motor effective air piston diameter	250 mm (8")
Air motor piston stroke	100 mm (4")
Air inlet thread	1/2" NPT(F)
Fluid outlet thread	1" NPT(F)
Fluid inlet thread	2 1/2" BSP(M)
Wetted parts material	Carbon steel / Cast iron / UHMWPE / Bronze / Acetal / Viton®

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
20:1	290 c.c	Stub	PD-20-290-CSA-B	PD-20-290-CSA-N

PERFORMANCE CHARTS

PM80 RATIO 20:1 SAE 10, 21 °C (70 °F)



DIMENSIONS

PUMP RATIO	20:1
A (mm)*	1.194 - 1.094
B (mm)	741
C (mm)	70
D (mm)	320
E (mm)	48

* Maximum and minimum value depending on the primer rod extension

DOUBLE BALL - DIVORCED DESIGN

PM100

AIR MOTOR

SHOVEL INLET PISTON PUMPS

22:1 PRESSURE RATIO - 442 CC PER PUMP CYCLE
 16:1 PRESSURE RATIO - 625 CC PER PUMP CYCLE

Medium pressure ink pumps. These divorced design pumps have a 10" diameter flat plate air motor and a shovel inlet valve. Reliable and highly effective pumps ideal for centralized ink pumping installations and capable to supply newspaper and magazine long distance multipress installations. They can also be used with other viscous fluids compatible with the pump construction materials.

These pumps shall be installed on a Power RAM with a follower plate to aid pump priming or they can be mounted onto a floor stand suction kit for totes and tanks.

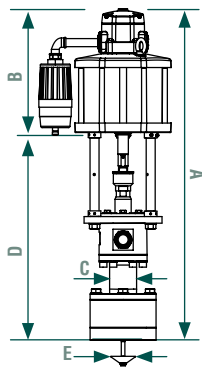


TECHNICAL DATA

Pressure ratio	22:1	16:1
Pump delivery per cycle	442 c.c.	625 c.c.
Fluid delivery at 60 cycle/min	26,5 l/min (7 gal/min)	37,5 l/min (9.8 gal/min)
Air pressure range	1,5 to 7 bar (20 to 100 psi)	1,5 to 7 bar (20 to 100 psi)
Maximum fluid pressure	154 bar (2,200 psi)	112 bar (1,600 psi)
Air motor effective air piston diameter	250 mm (10")	250 mm (10")
Air motor piston stroke	100 mm (4")	100 mm (4")
Air inlet thread	1/2" NPT(F)	1/2" NPT(F)
Fluid outlet thread	1 1/2" NPT(M)	1 1/2" NPT(M)
Fluid inlet thread	4" flange	4" flange
Wetted parts material	Carbon Steel / Cast iron / UHMWPE	Carbon Steel / Cast iron / UHMWPE

ORDER INFORMATION - Carbon steel divorced pump

PUMP RATIO	DELIVERY PER CYCLE	APPLICATION	BSP THREADS	NPT THREADS
22:1	442 c.c.	Stub	PD-22-442-CSA-B	PD-22-442-CSA-N
16:1	625 c.c.	Stub	PD-16-625-CSA-B	PD-16-625-CSA-N



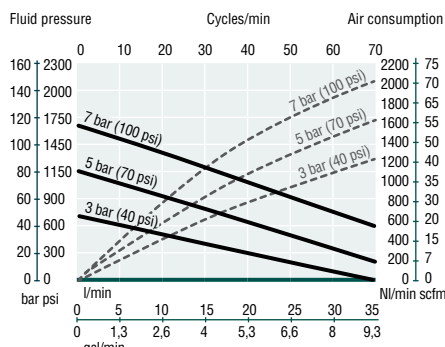
DIMENSIONS

PUMP RATIO	22:1	16:1
A (mm)*	1.258 - 1.146	1.258 - 1.146
B (mm)	413	413
C (mm)	90	104
D (mm)	692	692
E (mm)	83	83

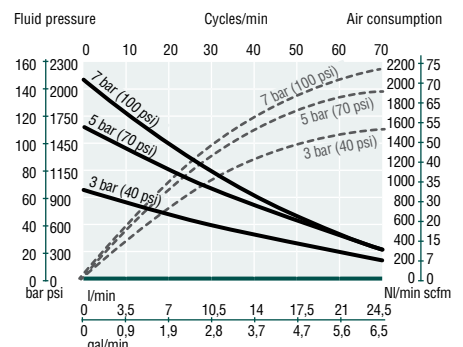
*Maximum and minimum value depending on the primer rod extension

PERFORMANCE CHARTS

PM100, RATIO 16:1 SAE 10, 21 °C (70 °F)



PM100, RATIO 22:1 SAE 10, 21 °C (70 °F)



— Outlet pressure
 - - - Air consumption

— Outlet pressure
 - - - Air consumption

INK TRANSFER PUMPS - ACCESSORIES

AIR TREATMENT UNITS



241 001

PART No.	THREAD	COMPONENT	APPLICATION
241 001	1/2" BSP (FF) with 1/2" BSP (M) - 3/8" BSP (F)	Combined air filter, regulator and lubricator	PM45, PM60, PM80 and PM100 pumps
241 501		Combined air filter and regulator	
241 201		Air line regulator	
241 301		Air filter	
241 401		Air lubricator	

AIR QUICK COUPLERS AND NIPPLES



251 412



255 312

Manufactured in brass, with nickel plated body and stainless steel wear parts. Air Quick couplers with female thread and air nipples with male thread.

THREAD	APPLICATION	QUICK COUPLERS PART No.	AIR NIPPLES PART No.
1/2"	PM45, PM60 and PM80 pumps	251 412	255 312

PACKAGES INK TRANSFER PUMPS

PNEUMATIC PUMP HOIST AND GRAVITY INDUCTOR FOR 50 OR 200 KG DRUMS



542926.270

Single post pneumatic inductor for 50 or 200 kg drums. Robust construction and easy to use, assists pump priming. Pump air supply and up/down movement controlled by a pneumatic valve.

PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION
542 921.270	PM45	17:1	125 c.c.	50 kg (120 lb)
542 926.270	PM45	17:1	125 c.c.	200 kg (440 lb)
543 920.270	PM60	12:1	290 c.c.	50 kg (120 lb)
543 925.270	PM60	12:1	290 c.c.	200 kg (440 lb)

PNEUMATIC INDUCTOR FOR 185 OR 200 KG DRUMS



545 910.270

Double post pneumatic inductor with automatic Power RAM controls for 185 or 200 kg drums. Suitable for use with high viscosity fluids, it helps with pump priming and the follower plate prevents fluid contamination.

PART No.	PUMP AIR MOTOR	PUMP RATIO	PUMP DELIVERY PER CYCLE	APPLICATION	FOLLOWER PLATE TYPE
544 910.270	PM80	20:1	290 c.c.	200 kg (440 lb)	Single ring
545 911.270	PM100	16:1	625 c.c.	200 kg (440 lb)	Double ring
545 910.270	PM100	22:1	442 c.c.	200 kg (440 lb)	Double ring





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