

ARO

Air-Powered Pumps



Air operated diaphragm pumps

1/4"



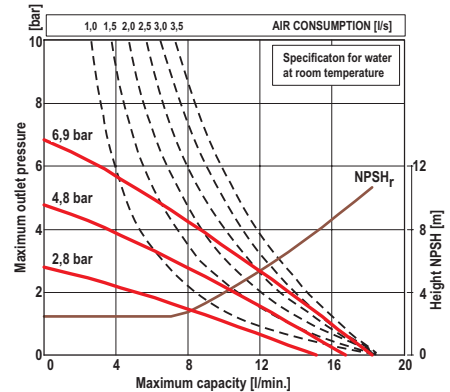
non-metallic
also Ex II 2GD certified

PD02P-xxS-xTx

Best Selling Models: PD02P-APS-PTA, PD02P-APS-PTT, PD02P-ADS-DTT

- Size: 02 - NPT, 3/8" inlet / 1/4" outlet
- Air motor: P polypropylene
- Wet end (pump weight): D groundable acetal (2,10 kg) Ex, P polypropylene (1,85 kg), K PVDF (2,20 kg)
- Inlet/outlet: A NPT, B BSP
- Hardware: S st. steel
- Valve / diaphragms: TA PTFE / santoprene®, TG PTFE / nitril, TT PTFE / PTFE
- Seats: D acetal, P polypropylene, K PVDF

Max. 17,4 l/min. at 6,9 bar (0,053 l/cycle)
3/8" / 1/4" NPT - fluid outlet/inlet,
1/4" NPT - air inlet



3/8" EXPert



non-metallic
also Ex II 2GD certified

PD03P-xxS-xxx

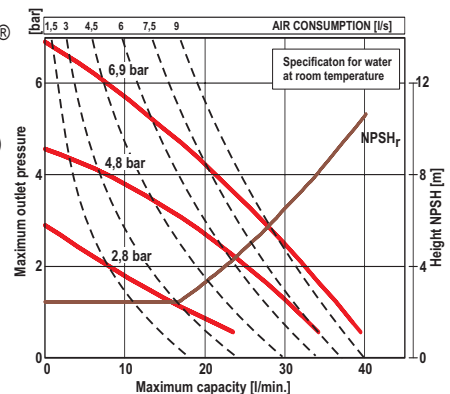
Best Selling Models: PD03P-BRS-PAA, PD03P-BRS-PTT, PD03P-BDS-DTT, PD03P-BLS-KTT

- Size: 03 - inlet / outlet 3/8"
- Air motor: P polypropylene
- Wet end (pump weight): R, P polypropylene (1,6 kg), E, D groundable acetal (1,9 kg) Ex, L, K PVDF (2,1 kg) (R, E, L multiple port manifold)
- Inlet/outlet: A NPT, B BSP
- Hardware: S st. steel
- Valve seats: P polypropylene, D acetal, K PVDF
- Flex-Check™ valve: O Flex-Check™ valve
- Balls / diaphragms: AA santoprene / santoprene®, CC hytrel / hytrel®, ST st. steel / PTFE, TT PTFE / PTFE, VV viton / viton®, JC nitrile / hytrel (Flex-Check), NA neopr./santopr. (Flex-Check)

Max. 40 l/min. at 6,9 bar (0,083 l/cycle)
3/8" / 3/8" thread - fluid outlet/inlet, 1/4" NPT - air inlet.
Suspended solids max. dia.: 1,6 mm.



Flex-Check™ valves – especially designed for liquids with fibrous semi-solids. Allow the pump to work upside down.



1/2" EXPert



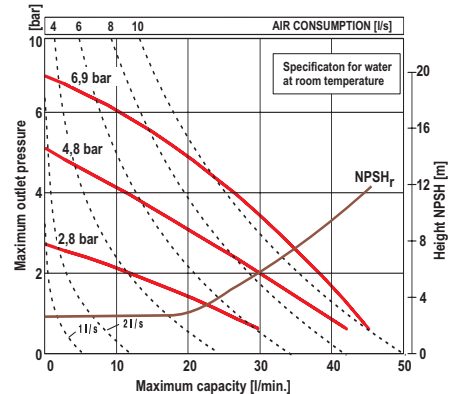
metallic
also with 3/4" inlet/outlet (PD07)
also natural gas driven

PD05x-xxS-xxx-B

Best Selling Models: PD05R-BAP-FAA-B, PD05R-BAP-FTT-B, PD05R-BSS-STT-B

- Size: 05 inlet / outlet 1/2"
- Air motor: R polypropylene, A aluminium (+1 kg)
- Wet end (pump weight): A aluminium (3,7 kg), S st. steel (6,5 kg)
- Inlet/outlet: A NPT, B BSP
- Hardware: S st. steel
- Balls / diaphragms: AA santoprene/santoprene®, CC hytrel/hytrel®, GG nitrile / nitrile, UU polyurethane/polyurethane, ST st. steel / PTFE, TT PTFE / PTFE, VV viton / viton®
- Seats: F aluminium, P polypropylene, S st. steel

Max. 45 l/min. at 6,9 bar (0,15 l/cycle)
Suspended solids max. dia.: 2,4 mm
1/2" / 1/2" - fluid outlet/inlet, 1/4" NPT - air inlet



1/2" EXPert



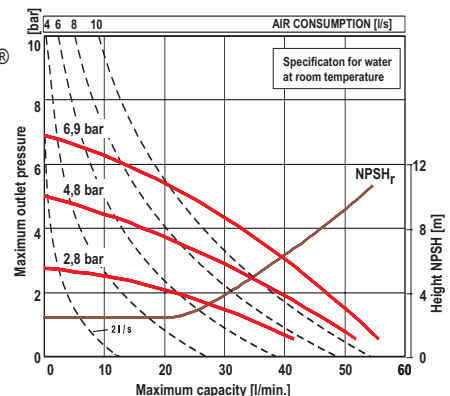
non-metallic
also EX II 2 GD certified
also with 3/4" inlet/outlet (PD07)

PD05P-xxS-xxx-B

Best Selling Models: PD05P-BRS-PAA-B, PD05P-BRS-PTT-B, PD05P-BKS-KTT-B

- Size: 05 - inlet / outlet 1/2"
- Air motor: P polypropylene
- Wet end (pump weight): R, P polypropylene (2,4 kg) Ex, E, D groundable acetal (2,9 kg) Ex, L, K PVDF (3,1 kg) (R, E, L multiple port manifold)
- Inlet / outlet: A NPT, B BSP
- Hardware: S st. steel
- Balls / diaphragms: AA santoprene/santoprene®, CC hytrel/hytrel®, ST st. steel / PTFE, TT PTFE / PTFE, VV viton / viton®
- Valve seats: P polypropylene, D acetal, K PVDF, S st. steel

Max. 54 l/min. at 6,9 bar (0,15 l/cycle)
Suspended solids max. dia.: 2,4 mm
1/2" / 1/2" - fluid outlet/inlet, 1/4" NPT - air inlet



BSP = British Standard Pipe Thread
NPSH_r = Net Positive Suction Head (required)

NPT = National (US standard) Pipe Thread
Pump dimensions and service kits – see page 5. Accessories common for piston and diaphragm pumps – see page 6.

ANSI = US standard applicable for the flange connection

Air operated diaphragm pumps

1" EXPert



PD10x-xxx-xxx

Best Selling Models: PD10A-BAP-AAA, PD10A-BAP-GGG, PD10A-BAP-FTT, PD10A-BSS-STT

metallic

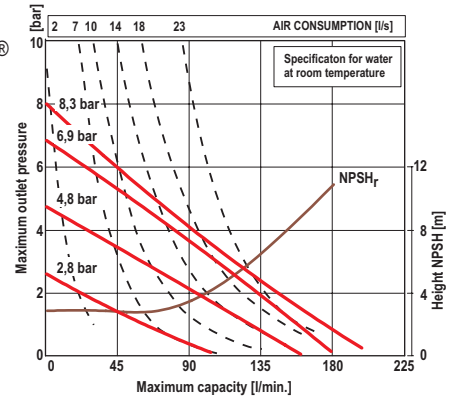


also natural gas driven

- Air motor**
- A aluminium
- R polypropylene (-2,8kg)
- S st. steel (+3,1 kg)
- Hardware**
- P plated steel
- S st. steel
- Wet end (pump weight)**
- A aluminium (11 kg)
- C cast iron (19 kg)
- S st. steel (20 kg)
- H hastelloy® (21 kg)
- Valve seats**
- A santoprene®
- C hytrel®
- E carbon steel
- F aluminium
- Balls / diaphragms**
- AA santoprene /santopr.®
- CC hytrel/hytrel®
- GG nitrile / nitrile
- ST st. steel / PTFE
- TT PTFE / PTFE
- VV viton / viton®
- G nitrile
- H hard st. steel
- L hastelloy®
- S st. steel

Max. 198 l / min. at 8,3 bar (0,94 l / cycle)
Suspended solids max. dia.: 3,2 mm

1" / 1" thread - fluid outlet/inlet, 1/4"NPT - air inlet



1" EXPert

PD10P-xxS-xxx

Best Selling Models: PD10P-BPS-PAA, PD10P-FPS-PTT, PD10P-FKS-KTT

non-metallic

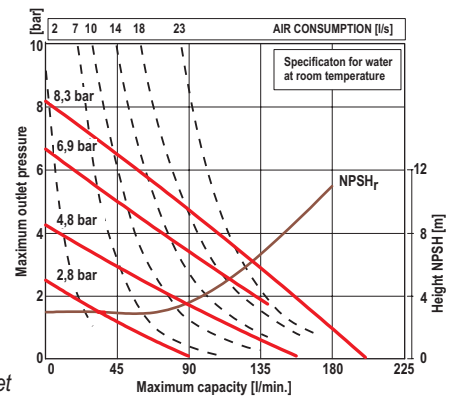


also flanged (side or centre port)
also Ex II 2GD certified

- Air motor**
- P polypropylene
- E conductive PP
- Hardware**
- S st. steel
- Wet end (pump weight)**
- P polypropylene (9 kg)
- K PVDF (12 kg)
- E conductive PP (9 kg)
- Valve seats**
- H hard steel 440
- K PVDF
- Balls / diaphragms**
- AA santoprene /santoprene®
- CC hytrel / hytrel®
- GG nitrile / nitrile
- TT PTFE / PTFE
- VV viton / viton®
- P polypropylene
- S st. steel

Max. 200 l / min. at 8,3 bar (0,99 l / cycle)
Suspended solids max. dia.: 3,2 mm

1" / 1" thread or ANSI/DIN pipe flange - fluid outlet/inlet, 1/4"NPT - air inlet



1 1/2" EXPert



PD15x-xxx-xxx

Best Selling Models: PD15A-BAP-AAA, PD15A-BAP-FTT, PD15A-BSS-STT

metallic

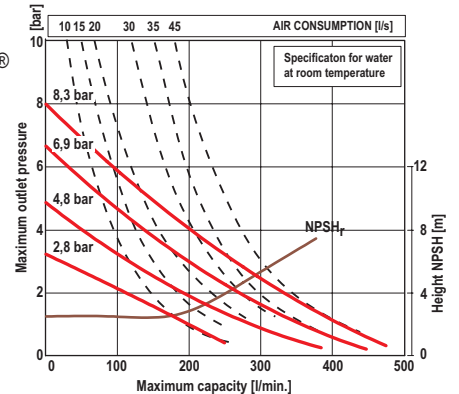


also flanged (center port)

- Air motor**
- A aluminium
- R polypropylene (-0,7kg)
- S st. steel (+7,3 kg)
- Hardware**
- P plated steel
- S st. steel
- Wet end (pump weight)**
- A aluminium (16 kg)
- C cast iron (34 kg)
- H hastelloy® (40 kg)
- S st. steel (28 kg)
- Valve seats**
- A santoprene®
- C hytrel®
- E carbon steel
- F aluminium
- Balls / diaphragms**
- AA santoprene / santopr.®
- CC hytrel / hytrel®
- GG nitrile / nitrile
- ST st. steel / PTFE
- TT PTFE / PTFE
- VV viton / viton®
- G nitrile
- H hard st. steel
- L hastelloy®
- S st. steel

Max. 465 l / min. at 8,3 bar (2,23 l / cycle)
Suspended solids max. dia.: 6,4 mm

1,5" / 1,5" thread or pipe flange - fluid outlet/inlet, 1/2"NPT - air inlet



1 1/2" EXPert

PD15P-xxS-xxx

Best Selling Models: PD15P-FPS-PAA, PD15P-FPS-PTT, PD15P-FKS-KTT

non-metallic

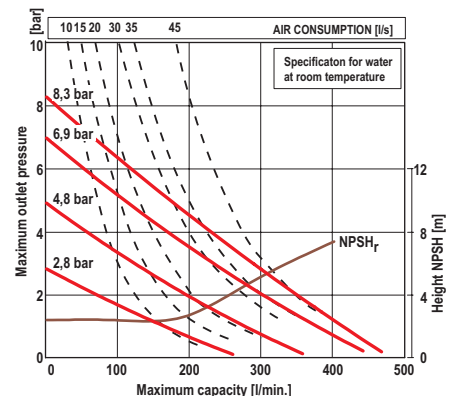


also EX II 2 GD certified
also center port, flanged

- Air motor**
- P polypropylene
- E conductive PP
- Hardware**
- S st. steel
- Wet end (pump weight)**
- P polypropylene (20 kg)
- K PVDF (26 kg)
- E conductive PP (19 kg)
- Valve seats**
- H hard steel 440
- K PVDF
- Balls / diaphragms**
- AA santoprene/santoprene®
- CC hytrel / hytrel®
- GG nitrile / nitrile
- ST st. steel / PTFE
- TT PTFE / PTFE
- VV viton / viton®
- P polypropylene
- S st. steel

Max. 465 l / min. at 8,3 bar (2,23 l / cycle)
Suspended solids max. dia.: 6,4 mm

1,5" / 1,5" ANSI/DIN pipe flange - fluid outlet/inlet, 1/2"NPT - air inlet



BSP = British Standard Pipe Thread

NPSH_r = Net Positive Suction Head (required)

NPT = National (US standard) Pipe Thread

Pump dimensions and service kits – see page 5. Accessories common for piston and diaphragm pumps – see page 6.

ANSI = US standard applicable for the flange connection

Air operated diaphragm pumps

2" EXPert

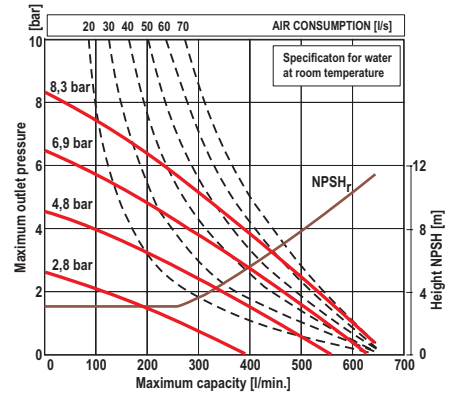


PD20x-xxx-xxx-B

Best Selling Models: PD20A-BAP-AAA-B, PD20A-BAP-GGG-B, PD20A-BAP-KTT-B, PD20A-BSS-STT-B



- Air motor**
 A aluminium
 R PP+st. steel (+8kg)
 Y PP+c. iron (+8kg)
 S st. steel (+15kg)
- Hardware**
 P plated steel
 S st. steel
- Balls / diaphragms**
 AA santoprene / santoprene®
 CC hytrel / hytrel®
 GG nitrile / nitrile
 TT PTFE / PTFE
 VV viton / viton®
- Wet end (pump weight)**
 A aluminium (29 kg)
 C cast iron (60 kg)
 H hastelloy® (54 kg)
 S st. steel (70 kg)
- Inlet / outlet**
 A 2" NPT
 B 2" BSP
 F 2" flange
- Valve seats**
 A santoprene®
 C hytrel®
 E carbon steel
 F aluminium
- G nitrile**
H hard st. steel
K PVDF
L hastelloy®
S st. steel
- Max. 644 litre / min. at 8,3 bar
 (5,3 litre / cycle)
 Suspended solids max. dia.: 6,4 mm
 2" / 2" thread - fluid outlet/inlet,
 3/4"NPT air inlet



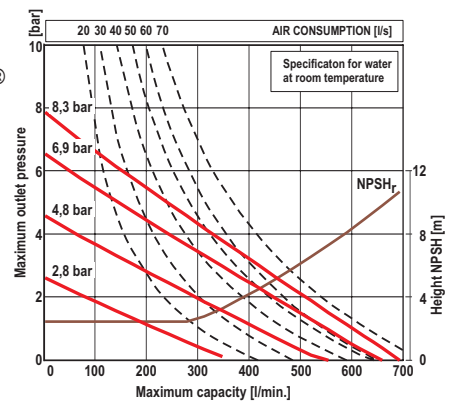
2" EXPert

PD20P-FxS-xxx

Best Selling Models: PD20P-FPS-PAA, PD20P-FPS-PTT, PD20P-FKS-KTT



- Air motor**
 P polypropylene/
 vinyl ester
 E conductive PP
- Hardware**
 S st. steel
- Balls / diaphragms**
 AA santoprene / santoprene®
 CC hytrel / hytrel®
 GG nitrile / nitrile
 TT PTFE / PTFE
 VV viton / viton®
- Wet end (pump weight)**
 P polypropylene (39 kg)
 K PVDF (50 kg)
 E conductive PP (39 kg)
- Inlet / outlet**
 F 2" flange
 ANSI/DIN
- Valve seats**
 P polypropylene
 K PVDF
- Max. 696 litre / min. at 8,3 bar (5,3 litre / cycle)
 Suspended solids max. dia.: 6,4 mm
 2" / 2" ANSI/DIN pipe flange - fluid outlet/inlet, 3/4"NPT - air inlet



also EX II 2 GD certified

2" EXPert

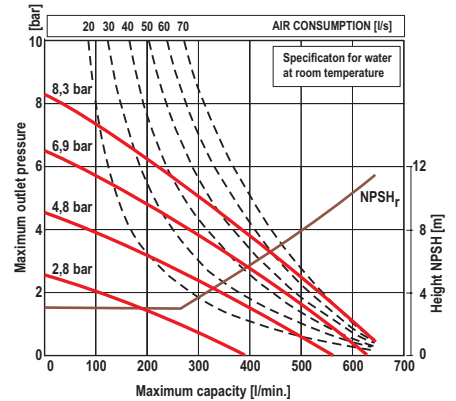


PF20x-xxx-xxx-B

Best Selling Models: PF20A-BAP-SAA-B, PF20A-BAP-SGG-B, PF20A-BCP-SAA-B



- Air motor**
 A aluminium
 R PP+st. steel (+8kg)
 Y PP+c. iron (+8kg)
 S st. steel (+15kg)
- Hardware**
 P plated steel
 S st. steel
- Flap / diaphragms**
 AA santoprene / santoprene®
 GG nitrile / nitrile
 UA polyurethane / santoprene®
 VT viton / PTFE
- Wet end (pump weight)**
 A aluminium (34 kg)
 C cast iron (73 kg)
 S st. steel (85 kg)
- Inlet / outlet**
 A 2" NPT
 B 2" BSP
- Valve seats**
 S st. steel
- Max. 644 litre / min. at 8,3 bar (5,3 litre / cycle)
 Suspended solids max. dia.: 50 mm (semi-solid)
 2" / 2" thread - fluid outlet/inlet, 3/4"NPT - air inlet



flap valve pump

3" EXPert

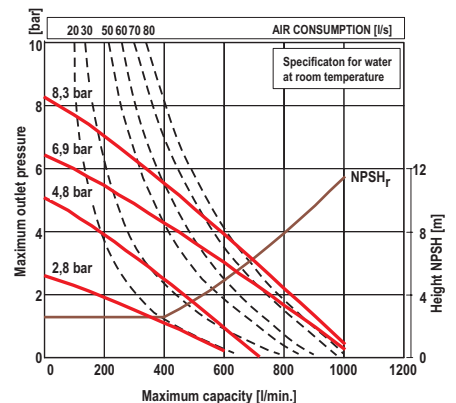


PD30x-xxx-xxx-C

Best Selling Models: PD30A-BAP-AAA-C, PD30A-BAP-GGG-C, PD30A-BSS-STT-C



- Air motor**
 A aluminium
 R polypropylene
 S st. steel (+18kg)
- Hardware**
 P plated steel
 S st. steel
- Balls / diaphragms**
 AA santoprene / santoprene®
 CC hytrel / hytrel®
 GG nitrile / nitrile
 TT PTFE / PTFE
 VV viton / viton®
- Wet end (pump weight)**
 A aluminium (51,3 kg)
 C cast iron (89,4 kg)
 S st. steel (92 kg)
 H hastelloy® (92 kg)
- Inlet / outlet**
 A 3" NPT
 B 3" BSP
- Valve seats**
 A santoprene®
 C hytrel®
 E carbon steel
 F aluminium
- G nitrile**
H hard st. steel
K PVDF
L hastelloy®
S st. steel
- Max. 1041 litre / min. at 8,3 bar (10,6 litre / cycle)
 Suspended solids max. dia.: 9,5 mm
 3" / 3" thread - fluid outlet/inlet, 3/4"NPT - air inlet.



BSP = British Standard Pipe Thread
 NPSH_r = Net Positive Suction Head (required)

NPT = National (US standard) Pipe Thread
 Pump dimensions and service kits – see page 5. Accessories common for piston and diaphragm pumps – see page 6.

Air operated diaphragm pumps



PMxxx-CSS-xxx-x02

Sanitary pumps – constructed from FDA approved materials (electro-polished stainless steel fluid section, food-grade santoprene or PTFE valves/diaphragms).
Max. capacities at 6,9 bar: 49 l/min. (PM05P), 197 l/min. (PM10), 465 l/min. (PM15), 644 l/min. (PM20) 1041 l/min. (PM30)



SBxxx-xxS-x

Size
10 – 1"
20 – 2"
30 – 3"

Air body 1"
P polypropylene
K PVDF
D conduct.acetal

Air body 2" & 3"
A aluminium
C cast iron
S st. steel

Hardware
S st. steel
P plated steel

Wet body 1" 2" & 3"
P polypropylene
K PVDF
D conduct.acetal
A aluminium
C cast iron
S st. steel

Diaphragm
A santoprene®
T PTFE
C Hytrel® (1")
G nitrile (2" & 3")

AUTOMATIC PULSATION DAMPENERS
details on request

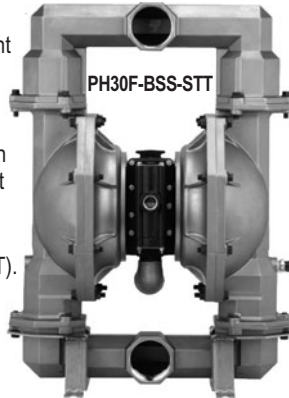
HIGH PRESSURE DIAPHRAGM PUMPS

Sealless design, unSTALLABLE air valve, excellent compatibility (including abrasive materials).
Typical applications: paint recirculation, filter press, adhesives, inks, resins and other.

PH10A-BSS-SST 3:1 double acting pump with electro-polished passivated stainless steel wet end, seats and balls (also with hardened steel seats and balls: PH10A-BSS-HHT).
Up to 90 l/min. free flow.



PH10A-BSS-SST

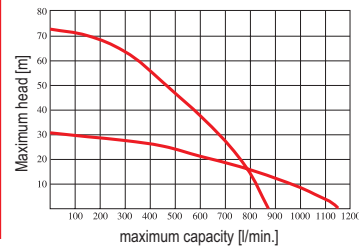


PH30F-BSS-STT 2:1 stainless steel single acting pump, max.13,8 bar outlet pressure or 600 l/min. free flow. Also with Santoprene/Hytrel diaphragms

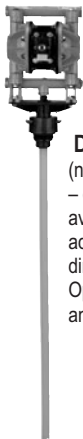
ROTARY SUMP PUMPS FOR CONSTRUCTION INDUSTRY

Model	Pump outlet BSP	Weight [kg]	Air cons. [l/sec]	Opening pump will pass through [mm x mm]	Air inlet	Recomm. inlet hose [mm]
P237A3-EU	2½"	21,8	50	222 x 222	¾"	19
P35A3-EU	2"	36,0	75	214 x 357	1"	25

Solid cast iron body with speed regulator. Air outlet 1¼", recommended exhaust hose 32 mm. For NPT outlet threads replace "A3" with "A1" in the part number.



P237A3-EU



1/2" DRUM PUMP SET
for convenient fluid transfer.

DA005-PPNN-2-A (nitrile/ polypropylene) – other materials available. 2" bung adapter to install directly on the drum. Optional hose, swivel and nozzle.



66M170-1EB-C

PIT-BOSS SCREENED INLET DIAPHRAGM PUMPS with ♦ optimized flow passages for larger solids ♦ comfort-grip handles ♦ one-way exhaust checks for submersible operation ♦ removable screened inlet ♦ integrated base plate for stability on soggy terrain ♦

Model (BSP outlet)	Fluid outlet	Max. l/min. @ 620kPa	Solids Ø max.[mm]	Weight [kg]	Air inlet / outlet
66M170-1EB-C	1½"	303	12	25	½"
66M270-1EB-C	2"	590	19	34	¾"
66M320-1EB-C	3"	821	25	54	¾"

PORTABLE POWDER PUMPS

for quick, clean, and low cost dry powders (up to 0,8 g/cm³) like: fumed silica, carbon black, expanded mica, talcum, silicones, acrylic resins, etc. Patented air induction system. BSP threads as standard. Aluminium PP20A-BAS-AAA (2"), PP30A-BAS-AAA (3"), St. steel PP20A-BSS-AAA (2"), PP30A-BSS-AAA (3")



EXPert PP20A-BAS-AAA

Ingersoll-Rand / ARO is committed to assure continuity of spare parts deliveries and compatibility of pump design. See following page for spare parts kit and pump dimensions or visit our web pages to learn about our EXPert & PRO series range of the pumps, special execution and accessories.

Dynamic to kinematic viscosity at 1 g/cm³

1 mPa's = 1cP (1cSt)	SSU	Ford No.3	Ford No.4	Zahn No.1	Zahn No.3
1	31	---	---	---	---
4	38	---	---	---	---
10	60	9	5	30	---
30	160	19	14	44	---
60	320	33	25	68	---
90	480	45	32	88	10
200	1 000	90	58	---	23
360	1 730	150	100	---	41
600	2 900	250	170	---	68
1 000	4 600	390	264	---	---
4 500	21 000	1780	1175	---	---
10 000	46 500	---	2670	---	---
50 000	231 000	---	---	---	---
100 000	462 000	---	---	---	---
200 000	925 000	---	---	---	---



Size	Max. l/min.
½"	49
1" metal	132
1"	178
1½" metal	341
1½"	454
2"	548
2" metal	651
3" metal	897



Ask for more details on Ingersoll Rand PRO-series (666xxx series)

Accessories – Pump dimensions – Repair kits

Maximum Temperature Limits: Pump body / Diaphragm / Ball / Seat

Hytrek	-29 – 66 °C
Nitrile	-12 – 82 °C
Polypropylene	2 – 66 °C
PVDF	-12 – 93 °C
Santoprene	-40 – 107 °C
PTFE	4 – 107 °C
Viton	-40 – 177 °C
Groundable Acetal	-12 – 82 °C

CONTROL ACCESSORIES FOR EXPERT SERIES

◆ **Intrinsically Safe Diaphragm Failure Detection (DFD)** kit P/N 67237: a simple, cost-effective way to wire your 1", 1.5", 2", 3" pumps for preventive maintenance, to avoid costly production downtime and possibly hazardous material leakage. An infrared light sensor in the diaphragm housing detects fluid entering the air side and sends a failure signal. Order PE (instead PD) to receive the pump prepared for the kit installation.

◆ **Cycle Counter** (mechanical) 67350-1 (67350 for 1" pumps): easy to install, cost efficient way to count EXP pump cycles, for batching or preventive maintenance indication.

◆ **Cycle Sensor Kit** gives close contact signal each cycle, to monitor cycle rate/flow or indicate preventative maintenance. Counting equipment not included.

EXP series pump size	PP motor	Metal motor
1/4, 3/8, 1/2	67386	---
1", 1 1/2"	67390	67392
2", 3"	67391	67393



ARO-STOP VALVES for overrun control

ARO STOP model no.	For motor (piston pump)	For diaphragm pump.
635040	3"	1/2", 1"
23644-400	4 1/4", 6"	1 1/2", 2"
635043	8", 10", 12"	3"

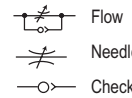
651105-EU



NEEDLE VALVES to control piston & diaphragm pump cycling

Model no.	Port	Piston motor
104104-N02	1/4"	2" - 3"
104104-N03	3/8"	---
104104-N04	1/2"	4 1/4" - 6"
104104-N06	3/4"	8" - 12"

Flow & check valves on request.



AIR PREPARATION KITS

For pump size	Model (BSP inlet)
for diaphragm pumps by outlet size	
1/4", 1/2"	P391B4-600(1/4")
1"	P392B4-610(1/4")
1 1/2"	P393C4-610(1/2")
2", 3"	P394E4-610(3/4")
1" (3:1)	P392C4-610(3/4")
for piston pumps by air motor size	
2"	C381B1-600(1/4")
2", 3" (NM type)	P391B4-600(1/4")
4 1/2", 6"	C383D1-610(1/2")
8", 10", 12"	C383E1-610(3/4")

Lubricator is not used for NM series piston pumps & diaphragm pumps



PNEUMATIC AGITATORS

Agitator	Motor used	Power [kW]	Speed [rpm]	Mounting	Shaft [mm]	Propeller
651100	MRV003AL	0,25	500-10000	Hub	① 305	1 x RH
651104-3	MRV009C	0,66	300-3000	Flange	① 267	1 x RH
651103	MRV009C	0,66	300-3000	Drum side	② 813	2 x RH
651104-1	MRV009C	0,66	300-3000	Flange	① 813	1x RH, 1x LH
651105-EU	7803AKC	0,37	100-500	Handheld	--- 590	see picture

Propeller and shaft material is always stainless steel.

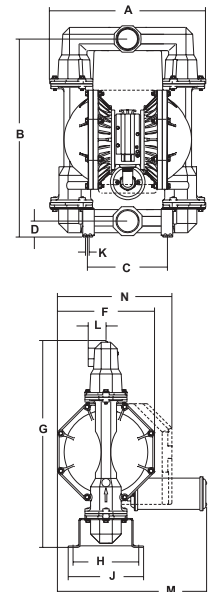
Dimensions, service kits, noise level for the diaphragm pump (also for classic models)

Pump size, material series	Pump model	replace X with:	Dimensions for aluminium / PP pumps [mm]											Service kits		Noise ¹⁾ dB(A)
			A	B	C	D	F	G	H	K	M ²⁾	N ³⁾	for air motor	for fluid side		
Diaphragm pumps listed in this catalogue and their variations																
1/4" non-metal	PD0XP-xxS-xTX	2, A	204	143	140	35	140	143	165	7,9	140	---	637276	637313-XX	59,8	
3/8" non-metal	PD03P-xxS-xxx	---	200	214	141	32	145	234	102	7,1	145	---	637428	637429-XX	72,7	
1/2" metal / Expert	PD05X-xxS-xxx-B	A, R	206	280	156	51	152	296	124	7,9	171	---	637428	637427-XX	75	
1/2" metal	PD05P-AxS-xxx	---	209	280	156	51	152	295	124	7,9	164	---	637141	637140-XX	71,1	
1/2" non-metal / Expert	PD05P-xxS-xxx-B	---	224	255	157	51	152	276	124	7,9	171	---	637428	637427-XX	75	
3/4" metal / Expert	PD07R-xAS-xxx	---	235	280	156	51	152	301	124	7,9	171	---	637428	637427-XX	75	
3/4" non-metal / Expert	PD07P-xPS-PXX	---	254	256	157	51	153	277	124	7,9	171	---	637428	637427-XX	75	
1" metal / Expert	PD10X-xxx-xxx	A, R, S	313	294	102	32	206	316	159	10,3	277	---	637397	637401-XX	80,6	
1" non-metal / Expert	PD10X-xxx-xxx	P, E	361	350	255	59	211	377	128	11,1	280	---	637397	637396-XX	79,7	
1,5" metal / Expert	PD15X-xxx-xxx	A, R, S	378	467	299	70	260	498	229	12,7	277	---	637389	637375-XX	82,8	
1,5" non-metal / Expert	PD15X-xxx-xxx	P, E	472	545	380	88	266	625	221	14,3	280	---	637389	637391-XX	81	
2" metal / Expert	PD20X-xxx-xxx-B	A, S	502	629	256	48	305	667	230	14,3	548	411	637421	637309-XX	85 ³⁾	
2" metal / Expert	PD20X-xxx-xxx-B	R, Y	502	629	256	48	305	667	230	14,3	548	411	637369	637309-XX	85 ³⁾	
2" metal	PD20X-xxx-xxx	A, C, S	502	629	256	48	305	667	230	14,3	548	411	637302	637309-XX	85 ³⁾	
2" metal / Flap / Expert	PF20X-xxx-xxx-B	A, S	589	629	256	48	305	667	230	14,3	548	411	637421	637310-XX	85 ³⁾	
2" metal / Flap valves	PF20X-xxx-xxx	A, C, S	589	629	256	48	305	667	230	14,3	548	411	637302	637310-XX	85 ³⁾	
2" non-metal / Expert	PD20X-FxS-xxx	P, E	614	728	360	92	352	811	208	14,3	566	532	637369	637373-XX	85 ³⁾	
3" metal / Expert	PD30X-xxx-xxx-C	A, S	599	762	307	60	381	813	258	14,3	586	449	637421	637303-XX	83 ³⁾	
3" metal / Expert	PD30R-xxx-xxx-C	---	599	762	307	60	381	813	258	14,3	586	449	637369	637303-XX	83 ³⁾	
3" metal	PD30X-xxx-xxx-B	A, S	599	762	307	60	381	813	258	14,3	586	449	637302	637303-XX	83 ³⁾	

PRO series diaphragm pumps

1/2" non-metal	66605x-xxx	---	215	256	156	51	152	288	122	7,9	164	---	637141	637140-XX	71,1
1" metal / PRO	6661xX-xxx-C	0, 1, 2, A, B, C	217	294	102	32	203	318	159	11,1	203	---	637118-C	637119-XX-C	64,5
1" non-metal / PRO	6661xX-xxx-C	3, 4, F, G, J, K, L, N	322	351	255	60	204	406	129	11,1	204	---	637118-C	637161-XX-C	64,5
1,5-2" metal / PRO	6661xX-xxx-C	0, 1, 2, A, B, C	333	467	229	70	292	498	298	12,7	292	---	637118-C	637124-XX	77,7
1,5-2" non-metal/PRO	666xxX-xxx-C	3, 4	495	541	379	83	292	622	229	15,8	302	---	637118-C	637165-XX	77,7
2" metal / PRO	6662X0-xxx-C	5, 7	455	629	256	48	330	669	230	14,3	578	---	637434	637432-XX	83,5
3" metal / PRO	6663X0-xxx-C	0, 2	564	762	306	60	406	820	258	14,3	621	---	637434	637433-XX	86,3

¹⁾ - At 4,5 bar and 60 cycles per minute. ²⁾ - With standard muffler. ³⁾ - With optional continuous duty 67263 muffler (or 67323 for PD20 series), for high flow applications, reducing possibility of freezing caused by moisture in the air supply



Intermittent duty muffler 94117 for 2" & 3" pumps in limited space applications

67263³⁾

Piston pumps & extrusion packages

Ratio	Capacity [l/min.]	Max bar (inlet)	cm ³ / cycle	Stub model	Wetted part ²⁾	Footprint fluid inlet/outlet	Air inlet	Air motor	Pumps for 205L barrel with no thread on inlet	Height [mm]	Weight [kg]
Two ball piston pumps											
1:1	34 ^{A)}	10,2	308	-----	Steel	--- / 3/4"F	1/4"F	2"	612041-x	1345	5,9
2:1	16,3 ^{A)}	10,2	134	NM2202A-11-x31	Steel	1"F / 1/2"F	1/4"F	2"	NM2202A-41-x31	1215	8,9
2:1	16,3 ^{A)}	10,2	134	NM2202B-11-x31	316	1"F / 1/2"F	1/4"F	2"	NM2202B-41-x31	1215	8,9
4:1	15,8 ^{A)}	10,2	134	NM2304A-11-x11	Steel	1 1/2"F/3/4"F	1/4"F	3"	NM2304A-41-x11	1463	20,9
4:1	15,8 ^{A)}	10,2	134	NM2304B-11-x11	316	1 1/2"F/3/4"F	1/4"F	3"	NM2304B-41-x11	1463	20,9
9:1	10,5 ^{B)}	10,2	180	650453-x	Steel	1 1/2"M/3/4"F	1/2"F	4 1/4"	650453-5 (-8)	1511	22,2
9:1	10,5 ^{B)}	10,2	180	650408-x-B ¹⁾	316	1 1/4"F/3/4"F	1/2"F	4 1/4"	650409-x	1405	20,3
10:1	56,7 ^{B)}	8,1	980	650866-x6D-B	400 ³⁾	A 2"M/1 1/4"F	3/4"F	8"	6694X ⁷⁾		
11:1	13,9 ^{B)}	10,2	238	650483-x43 ¹⁾	300	A.D 2"M/1"F	1/2"F	4 1/4"	66300 ⁷⁾		
15:1	56,7 ^{B)}	6,1	980	650867-x6D-B	400 ⁴⁾	A 2"M/1 1/4"F	3/4"F	10"	6694X ⁷⁾		
18:1	2,3 ^{B)}	10,2	39	NM2318-13-x43	400	1/2" / 1/4"	1/4"	3"	67310 ⁷⁾		
22:1	7,2 ^{B)}	10,2	121	650484-x43 ¹⁾	300	A.D 2"M/1"F	1/2"F	4 1/4"	66301 ⁷⁾		
23:1	13,9 ^{B)}	10,2	238	650683-x43 ¹⁾	300	A.D 2"M/1"F	1/2"F	6"	66300 ⁷⁾		
23:1	56,7 ^{B)}	6,1	980	650967-x6D-B	400 ⁵⁾	A 2"M/1 1/4"F	3/4"F	12"	6694X ⁷⁾		
28:1	1,4 ^{B)}	10,2	24	NM2328A-11-x11	316	1/2" / 1/4"	1/4"	3"	66066 ⁷⁾		
30:1	4,9 ^{B)}	10,2	90	650485-x43 ¹⁾	300	A.D 2"M/1"F	1/2"F	4 1/4"	66302 ⁷⁾		
40:1	13,9 ^{B)}	8,1	238	650883-x4D-B ¹⁾	300	A.D 2"M/1"F	3/4"F	8"	66300 ⁷⁾		
45:1	7,2 ^{B)}	8,1	121	650684-x43 ¹⁾	300	A.D 2"M/1"F	1/2"F	6"	66301 ⁷⁾		
45:1	20,4 ^{B)}	6,9	339	650863-x4D-B	Steel	B 2"F/1"F	3/4"F	10"	66475 ⁷⁾		
60:1	4,9 ^{B)}	6,9	90	650685-x43 ¹⁾	316	A.D 2"M/1"F	1/2"F	6"	66302 ⁷⁾		
65:1	20,4 ^{B)}	6,9	339	650963-x4D-B	Steel	B 2"F/1"F	3/4"F	12"	66475 ⁷⁾		

High capacity four ball transfer pumps											
2:1	80,6 ^{B)}	10,3	1344	650439-x4B	300	2"M/1"F	1/2"F	4 1/4"	67200 ⁷⁾		
3:1	110,8 ^{B)}	10,3	1846	650640-x4B	316 ⁶⁾	2"M/1"F	1/2"F	6"	67201 ⁷⁾		
4:1	80,6 ^{B)}	10,3	1344	650639-x4B	316 ⁶⁾	2"M/1"F	1/2"F	6"	67200 ⁷⁾		
5:1	105,8 ^{B)}	10,3	1771	650840-x4G-B	316 ⁶⁾	2"M/1"F	3/4"F	8"	67201 ⁷⁾		
7:1	94,5 ^{B)}	10,3	1269	650839-x4G-B	316 ⁶⁾	2"M/1"F	3/4"F	8"	67200 ⁷⁾		

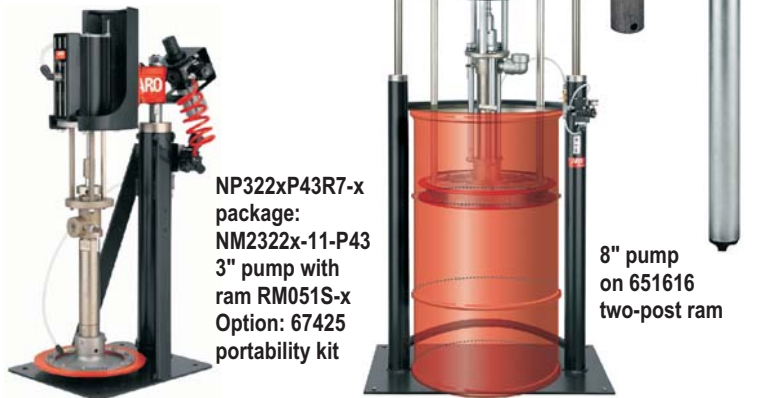
¹⁾ - "Ultra" ceramic coated st. steel plunger instead of hard chrome plated: replace last "3" with "B" (or "D" with "C")²⁾ - Steel = carbon steel; 300, 316, 400 = stainless steel
 Optional st. steel 300: ³⁾ - 613112-xxF-C, ⁴⁾ - 613123- xxF-C, ⁵⁾ - 613124-xxF-C.

⁶⁾ - St. steel CF8M ⁷⁾ - Lower part of the pump. "6663xx" = integrity series

^{A)} - At 120 cycle per minute, ^{B)} - At 60 cycle per minute, M = male pipe thread NPT, F = female pipe thread NPT

Typical extrusion packages with 651616 ram, FRL & muffler:

Part number	Pump description	Pump model	Follower
NP431R-02-G43	23:1 steel, chop check	650492-G43-B	66516-1
NP434R-02-G43	12:1 steel, chop check	650491-G43-B	66516-1
NP621R-02-G43	60:1 st. steel, 2-ball	650685-G43	66516-1
NP621R-52-R43	60:1 st. steel, 2-ball	650685-R43	66516-6
NP631R-02-C43	46:1 steel, chop-check	650692-C43-B	66516-1
NP631R-52-R43	46:1 steel, chop-check	650692-R43-B	66516-2
NP634R-02-C43	23:1 steel, chop-check	650691-C43-B	66516-1
NP634R-02-G43	23:1 steel, chop-check	650691-G43-B	66516-1



Piston pumps for extrusion (with chop-check valves)

Ratio	Capacity [l/min.]	Max bar (inlet)	cm ³ / cycle	Model	Wet part	Footprint / fluid outlet	Air NPT inlet	Packings	Alternate packings	Air motor	Sound [dBa]	Height [mm]	Weight [kg]	Lower part	Lower pump kit	Motor repair kit
12:1	12,4 ^{B)}	10,3	204	650491-x43-B	Steel	A / 1"F	1/2"F	R=PTFE	G, P	4 1/4"	80	1312	29	66243-	637071-...	61268
13:1	39,4 ^{B)}	8,1	662	650871-xxE-C	Steel	B / 1 1/2"F	3/4"F	R4=PTFE	F4, J3, P4	8"	89,8	1330	57	66236-	637128-...	66614
20:1	39,6 ^{B)}	6,3	662	650875-xxE-C	Steel	B / 1 1/2"F	3/4"F	R4=PTFE	F4, J3, P4	10"	84,8	1302	65,3	66236-	637128-...	637110
22:1	3,7 ^{B)}	10,3	31,1	NM2322E-11-P43 ^{B)}	Steel	C / 1/2"F	1/4"F	P=PTFE	-----	3"	85	857	13	6710x	63729E-...	637316
22:1	3,7 ^{B)}	10,3	31,1	NM2322F-11-P43 ^{B)}	316	C / 1/2"F	1/4"F	P=PTFE	-----	3"	85	857	13	6710x	63729F-...	637316
23:1	6,8 ^{B)}	10,3	114	650492-x43-B	Steel	A / 1"F	1/2"F	R=PTFE	G, P	4 1/4"	80	1311	28,9	66266-	637074-...	61268
23:1	12,4 ^{B)}	10,3	204	650691-x43-B	Steel	A / 1"F	1/2"F	R=PTFE	G, P	6"	83	1311	30,4	66243-	637071-...	61355
28:1	22,9 ^{C)}	8,1	328	650888-xxD	Steel	B / 1 1/4"F	3/4"F	C4=H-PE	J3=mixed	8"	89,8	1304	63,5	67300-	637348-...	66614
30:1	39,6 ^{B)}	6,3	662	650971-xxE-C	Steel	B / 1 1/2"F	3/4"F	R4=PTFE	F4, J3, P4	12"	89,8	1302	66,8	66236-	637128-...	637112
43:1	3,4 ^{B)}	10,3	46,7	67120-P43 ^{B)}	Steel	C / 1/2"F	1/2"F	P=PTFE	-----	4 1/4"	80	1006	20	6710x	637290-...	61268
43:1	3,4 ^{B)}	10,3	46,7	67121-P43 ^{B)}	316	C / 1/2"F	1/2"F	P=PTFE	-----	4 1/4"	80	1006	20	6710x	637290-...	61268
44:1	14,3 ^{B)}	8,1	204	650891-xxD-C	Steel	A / 1"F	3/4"F	R=PTFE	G, P	8"	89,8	1328	40,4	66243-	637071-...	66614
44:1	22,9 ^{C)}	6,3	328	650889-xxD	Steel	B / 1 1/4"F	3/4"F	C4=H-PE	J3=mixed	10"	84,8	1276	74,8	67300-	637348-...	637110
46:1	6,4 ^{B)}	10,3	114	650692-x43-B	Steel	A / 1"F	1/2"F	R=PTFE	G, P	6"	83	1311	30,4	66266-	637074-...	61355
65:1	5,1 ^{B)}	7,9	84,6	650698-C43	Steel	A / 3/4"F	1/2"F	C4=H-PE	-----	6"	83	1309	30,4	67348-	637464-...	61355
65:1	22,9 ^{C)}	6,3	328	650989-xxD	Steel	B / 1 1/4"F	3/4"F	C4=H-PE	J3=mixed	12"	89,8	1276	74,8	67300-	637348-...	637112

^{B)} - Optional cup style lower packing (instead of grooved), replace last "3" with "8"

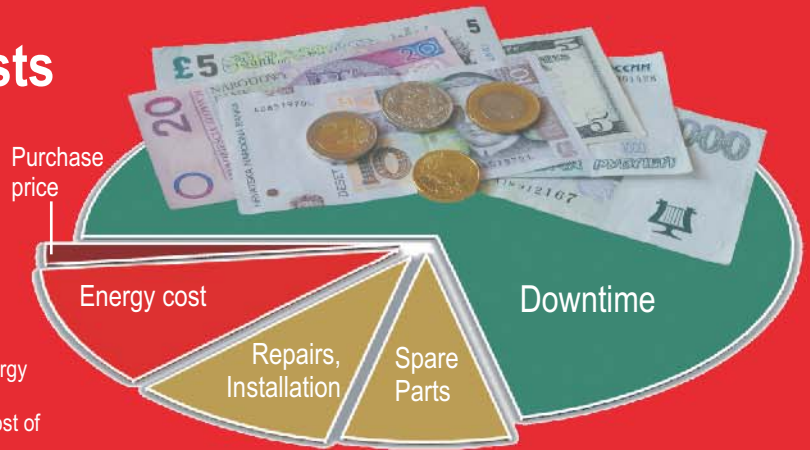
^{B)} - Capacity at 60 cycle per minute, ^{C)} - capacity at 75 cycle per minute

M = Male pipe thread NPT
F = Female pipe thread NPT

Are Traditional Pump Costs Draining Your Budget?

It's time to consult an **EXPerT**

Fact: The purchase price of a traditional diaphragm pump is the smallest piece of the total pump cost-of-ownership pie. Add all energy costs, parts costs and labour costs up and you're dealing with a sizeable financial commitment. With EXP, you can slice the total cost of ownership pie down to a much more digestible size.



EXP Downtime Savings

Patented Unbalanced™ Major Air Valve, Quick Dump™ & SimulShift™ technologies work together to eliminate costly downtime due to freezing and stalling



EXP Energy Savings:

Positive-Seal "D-valve" design eliminates compressed air "Blow-By" and the money it drains from Your energy budget.



EXP Parts & Labor Savings:

Original Ingersoll-Rand ARO convoluted diaphragms last 4-times longer than traditional diaphragms in normal operation.

What is behind?

- ✓ **Simplified Major Air Valve Block** for easy access, simple & quick to service. No added air lubrication required.
- ✓ **"Unbalanced" Major Air Valve** design to eliminate valve "sticking" and pump stall-out even under low air inlet pressures.
- ✓ **"SimulShift™" Valve** to insure faster pump trip-over with smoother flow and lower air consumption.
- ✓ **"Quick Dump™" Checks** to eliminate pump ice-up by diverting cold, wet exhaust air away from the major air valve. No need for space heaters or other ice-preventive contraptions.
- ✓ **Bolted Construction** to avoid spills & leaks related with traditional clamp bands, and allow easier re-assembly.

How you can challenge them?

- ✓ **Can be stalled:** as many times as you want. Just close the fluid outlet and the pump will stop by itself. It will restart immediately after you reopen it. No need for sophisticated control, bypasses ... And thanks to D-Valve construction no blow-byes and no energy lost.
- ✓ **Are ATEX certified:** inherently explosion proof. All metal pumps as well as those made from groundable acetal or conductive Polypropylene can be grounded to remove static electricity.
- ✓ **Tolerant for abrasive & suitable for multiple aggressive liquids** AOD pumps do not contain any rotating or sliding sealing which can be easily worn by rubbing. Laminar flow to allow abrasives to pass gently.
- ✓ **Perfect solution when viscosity is not stable,** and for liquids with content of solid parts and/or fibres.

Contact your nearest Ingersoll Rand / ARO distributor or sales representative for energy savings calculations.

Visit www.ingersollrand.pl to get the access to the current PDF catalogues, links to instruction manuals and pump selector program, or FRL selector or to learn about your nearest Ingersoll Rand representative office & distributor in East Europe.



Provides expert assistance in selecting a diaphragm pump to best meet your needs (includes an updated chemical guide).



An effective and simple to use online selection program dedicated to ARO-Flo filters, regulators and lubricators.

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