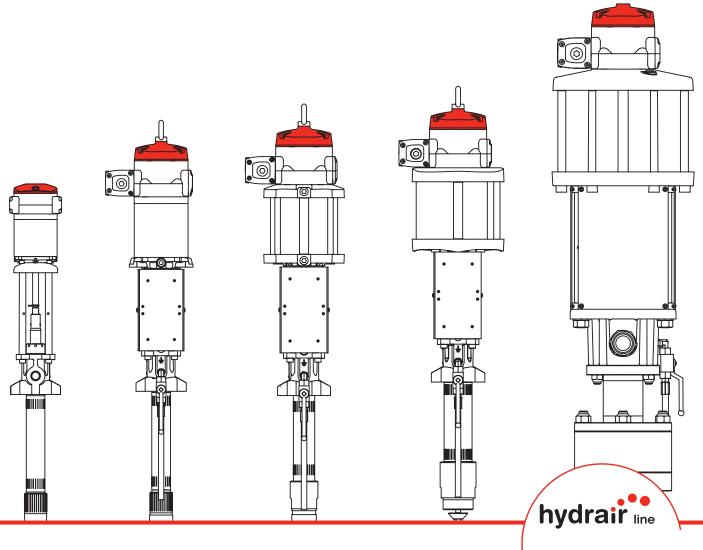


# **PRINTING INK SUPPLY PUMPS**

PUMPS • PUMPING STATIONS • ACCESSORIES





# SAMOA QUALITY AND LEADERSHIP

# SAMOA Group

## FLUID HANDLING TECHNOLOGY

SAMOA, a privately owned company, is a leading European manufacturer of Lubrication and Fluid Handling Equipment. SAMOA products are used for transfer, dispensing, dosing and recovery. SAMOA designs and manufacturers a wide range of products that include air-operated piston pumps, diaphragm pumps, volume flow meters, delivery guns, electronic components for inventory control systems, hose reels, hand pumps and accessories.

#### **Product development**

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 product improvements and new products.

#### Manufacturing

SAMOA's headquarters have been in Gijón, on the Spanish North Coast, for over 55 years. SAMOA's manufacturing facilities are modern and are 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 OHSAS 18001 certified.

#### Distribution

Our products are available through a network of knowledgeable distributors and owned Distribution Companies. 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.

#### **Globally competitive**

Our 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.



## **SPECIFICALLY DESIGNED FOR PRINTING INKS**

Hydrair Ltd., is one of world's leading manufacturers of ink pumping equipment and associated control systems. Hydrair products have been specifically designed for the transfer of high viscosity printing inks.

#### History

Hydrair, established in 1954, has over sixty years experience in the printing industry and installed its first multicolour ink feeding system for a high speed commercial press in 1969. At its headquarters in Droitwich, very close to England's industrial heartland, new solutions are constantly developed in order to increase the efficiency and reduce the costs of printers worldwide.

#### Efficient & Reliable

Hydrair products and installations enjoy an excellent reputation within the newspaper, commercial and sheet fed printing industry.

#### Wide Range

Since its beginning Hydrair has increased its range of products offering modern solutions for printers and ink manufacturers. Our wide range of pumps including piston and diaphragm pumps gives us the required versatility to meet the needs of the following industries:

- Newspaper printing.
- Commercial and magazine printing.
- Ink manufacturing.
- Packaging industry.



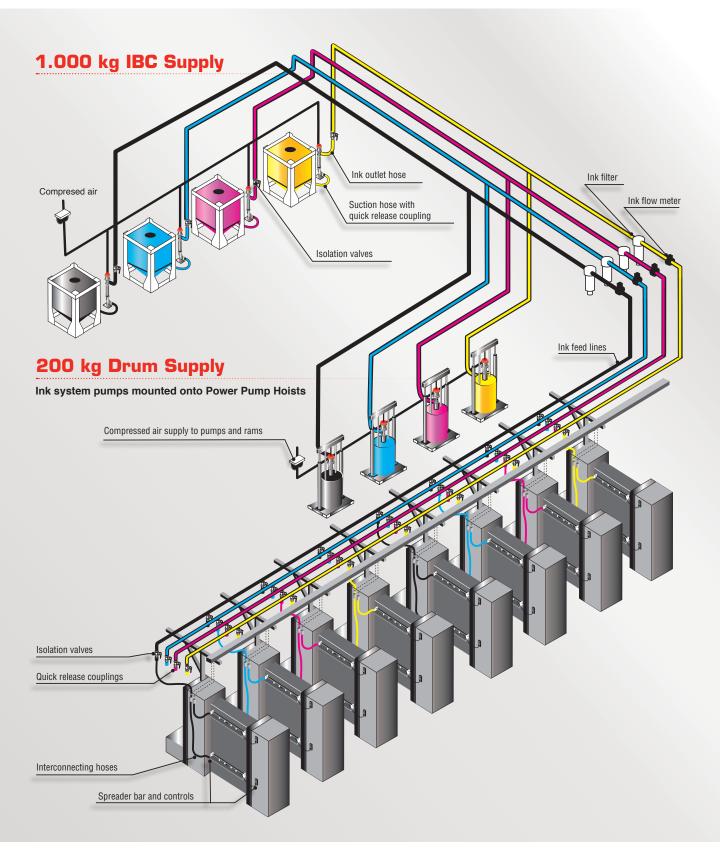


# **Ink Distribution Systems**

# **General installation Layout**

SAMOA-Hydrair pumps can be used in a wide range of systems feeding ink through high pressure pipe work to press.

- · Centralized ink delivery systems feeding multipress installations.
- $\cdot$  Individual presses can be fed from dedicated  ${\it stand-alone-pump-system}.$
- · Simple systems, supplying ink from large drums to dispensing valves for replenishing ink cans.





# Ink Piston Pumps The heart of an ink system

# Leading technology and innovation

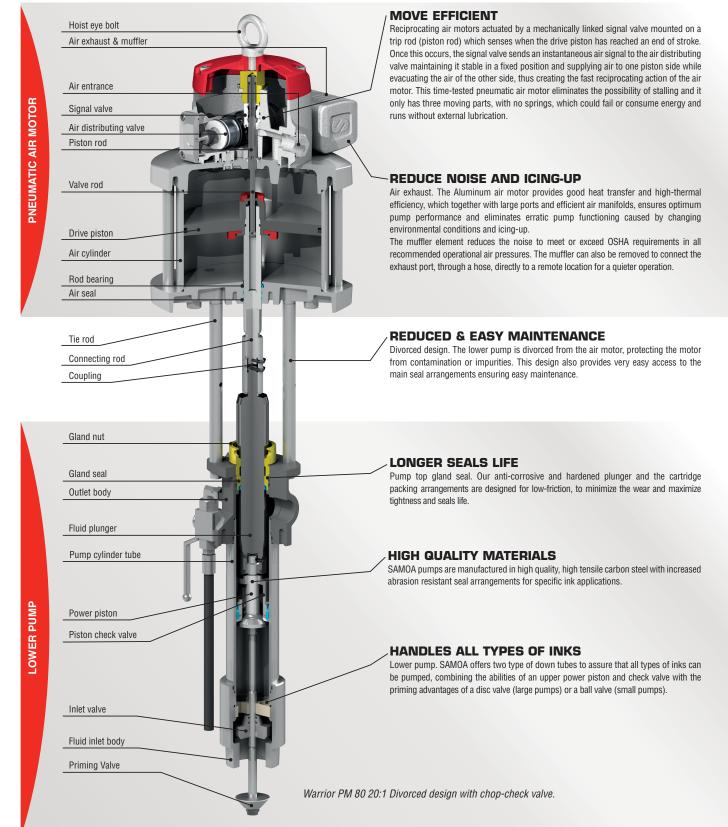
·Designed to pump high viscosity inks at high flow rates.

A full range of Heavy-Duty, high efficiency, air powered, double acting, positive displacement

piston pumps offer solutions to move any ink volume fast.



SAMOA





# **PumpMaster 35**

# **Bantam PM35 Series**

With the need for the small printer to turn away from expensive and inconvenient 2 kg can, this pump, when mounted on the 20 kg mobile single post Power Ram, offers a low cost solution to the printer who does not require a central ink distribution system. The Bantam PM35 pump is ideal for local transfer straight to the supply line.



Technical data	
Air motor effective diameter	3,5" (90 mm)
Stroke	3" (75 mm)
Air pressure range	3 - 7 bar (40 - 100 psi)
Air inlet port	3/8" BSP (F)
Air exhaust port	Integrated air exhaust muffler
Noise Level (7 bar – 100 psi / 1 m - 3 ft)	80 dB (A)
Air motor & pump design	Divorced type
Model	PM35 08BFTC
Part No.	540 010
Pump Ratio	8:1
Fluid inlet type	Ball check
Fluid inlet thread	2" BSP (M)
Fluid outlet thread	3/4" BSP (F)
Displacement per cycle	95 cc
Aprox. cycles per litre	10,5
Standard flow rate*	1 kg/min
Dimensions X-Y-Z (mm)	567 - 350 - 50
Weight	17 kg
Application	For use with mobile single post Power Ram

\*Flow rates with ink at 7 bar – 100 psi air inlet pressure.

PumpMaster 35, Bantam Series pump mounted on

a mobile single post Power Ram. To be used with 20 kg ink pails with a maximum height of 390 mm and

a mimimum / maximum diameter of 265 / 295 mm.

The pump is mounted to a single wiper follower plate.

Same as Part No. 540 910 but follower plate for ink

pails with min. /max. diameter of 320 / 340 mm.

Part No. 540 910

Part No. 540 911

SAMOA recommends pumps to work at 30 cycles per minute for reduced wear on moving parts and minimized maintenance.

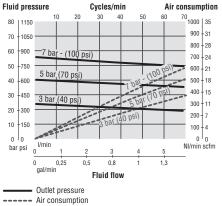
B = Ball Check Inlet F = UHMWPE Seals T = Threaded Inlet C = Carbon Steel and Cast Iron Fluid Outlet Body



Dimensions in mm

## **PERFORMANCE CURVES** (#10 weight oil, ambient temperature)

#### PM35 8:1 Ball check



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# **Cruiser PM45 Series**

The Bantam PM45 Series is a general-purpose range of 4 1/2" diameter air motor pumps able to transfer most fluid and semifluid materials. These pumps are light enough to be portable and can be used with a mobile single post Power Ram but heavy enough to handle day-in and day-out pumping demands.



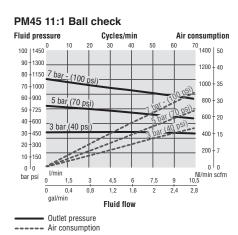
Technical data		
Air motor effective diameter	4 1/2" (115 mm)	
Stroke	4" (100 mm)	
Air pressure range	1,5 - 7 bar (20 - 100 psi)	
Air inlet port	1/2" BSP (F)	
Air exhaust port	Exhaust muffler included (3/4" (F) threaded port for remote exhaust)	
Noise Level (7 bar – 100 psi / 1 m - 3 ft)	80 dB (A)	
Air motor & pump design	Divorced type	
Model	PM45 11BFTC	PM45 17BFTC
Part No.	542 011	542 010
Pump Ratio	11:1	17:1
Fluid inlet type	Ball check	Ball check
Fluid inlet thread	2" BSP (M)	2" BSP (M)
Fluid outlet thread	3/4" BSP (F)	3/4" BSP (F)
Displacement per cycle	180 cc	125 cc
Aprox. cycles per litre	5,5	8
Standard flow rate*	2,2 kg/min	1,5 kg/min
Dimensions X-Y-Z (mm)	723 - 320 - 54	723 - 350 - 50
Weight	22 kg	22 kg
Application	Pump Hoist or Power Ram with 200 kg drums.	Pump Hoist or Power Ram with 200 kg drums or mobile unit with 20 kg pails.

\*Flow rates with ink at 7 bar – 100 psi air inlet pressure.

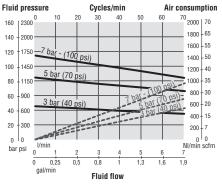
SAMOA recommends pumps to work at 30 cycles per mintute for reduced wear on moving parts and minimized maintenance.

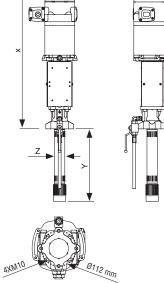
*	B = Ball Check Inlet	F = UHMWPE Seals	T = Threaded Inlet	C = Carbon Steel and Cast Iron Fluid Outlet Body
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## PERFORMANCE CURVES (#10 weight oil, ambient temperature)



#### PM45 17:1 Ball check







SAMOA

# PumpMaster 60

# **Dreadnought PM60 Series**

The Dreadnought PM60 range features 6" diameter air-motor pumps designed to transfer offset inks. Ideal for distribution and mixing systems particularly when ink is pumped from standard drums or stationary containers.



Technical data			
Air motor effective diameter	6" (150 mm) 4" (100 mm)		
Stroke			
Air pressure range	1,5 - 7 bar (20 - 100 psi)		
Air inlet port	1/2" BSP (F)		
Air exhaust port	Exhaust muffler included (3/4" (F) threaded port remote exhaust) 80 dB (A)		
Noise Level (7 bar – 100 psi / 1 m - 3 ft)			
Air motor & pump design	Divorced type		
Model	PM60 12SFTC	PM60 22BFTC	
Part No.	543 011	543 010	
Pump Ratio	12:1	22:1	
Fluid inlet type	Chop-check valve with priming disc	Ball check	
Fluid inlet thread	2 1/2" BSP (M)	2" BSP (M)	
Fluid outlet thread	1" BSP (F)	3/4" BSP (F)	
Displacement per cycle	290 cc	180 cc	
Aprox. cycles per litre	3,4	5,5	
Standard flow rate*	3,5 kg/min	2,2 kg/min	
Dimensions X-Y-Z (mm)	738 - 320 - 70	738 - 320 - 54	
Weight	27 kg	23 kg	
Application	Pump Hoist with 200 kg drums or totes using a Floor Stand Suction Kit	Pump Hoist or Power Ram with 200 Kg drums	

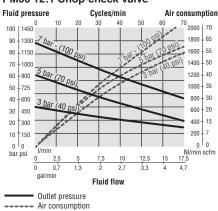
\*Flow rates with ink at 7 bar – 100 psi air inlet pressure.

SAMOA recommends pumps to work at 30 cycles per minute for reduced wear on moving parts and minimized maintenance.

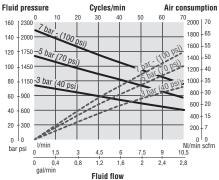
*	S = Chop-check Valve with Priming Disc	F = UHMWPE Seals	T = Threaded Inlet	C = Carbon Steel and Cast Iron Fluid Outlet Body
	B = Ball Check Inlet			

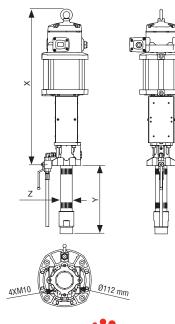
#### **PERFORMANCE CURVES** (#10 weight oil, ambient temperature)

PM60 12:1 Chop-check valve



# PM60 22:1 Ball check







# Warrior PM80 Series

The Warrior PM80 range features 8" diameter air motor pump and it is the ideal workhorse even for long pipelines. Built to last, Warrior PM80 series pumps are also double acting, delivering material on both up and down strokes, whilst the divorced design prevents contamination of the air motor seals.

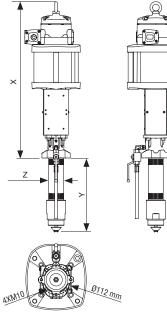


Technical data	
Air motor effective diameter	8" (200 mm)
Stroke	4" (100 mm)
Air pressure range	1,5 - 7 bar (20 - 100 psi)
Air inlet port	1/2" BSP (F)
Air exhaust port	Exhaust muffler included (3/4" (F) threaded port for remote exhaust)
Noise Level (7 bar – 100 psi / 1 m - 3 ft)	80 dB (A)
Air motor & pump design	Divorced type
Model	PM80 20SFTC
Part No.	544 010
Pump Ratio	20:1
Fluid inlet type	Chop-check valve with priming disc
Fluid inlet thread	2 1/2" BSP (M)
Fluid outlet thread	1" BSP (F)
Displacement per cycle	290 cc
Aprox. cycles per litre	3,4
Standard flow rate*	3,5 kg/min
Dimensions X-Y-Z (mm)	741 - 320 - 70
Weight	28 kg
Application	Pump Hoist or Power Ram with 200 kg drums, or totes using a Floor Stand Suction Kit.

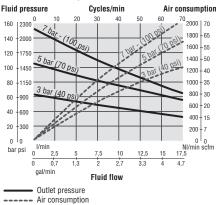
\*Flow rates with ink at 7 bar – 100 psi air inlet pressure.

SAMOA recommends pumps to work at 20 cycles per minute for reduced wear on moving parts and minimized maintenance.

★ S = Chop-check Valve with Priming Disc F = UHMWPE Seals T = Threaded Inlet C = Carbon Steel and Cast Iron Fluid Outlet Body
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## **PERFORMANCE CURVES** (#10 weight oil, ambient temperature)



# PM80 20:1 Chop-check valve



# **Dominator PM100 Series**

The Dominator PM100 range features a 10" air-motor. This reliable and powerful pump is ideal for centralized, static bulk tank, ink pump stations that supply multiple, high speed, newspaper and commercial press installations.



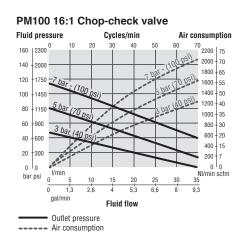
Technical data		
Air motor effective diameter	10" (250 mm)	
Stroke	4" (100 mm)	
Air pressure range	1,5 - 7 bar (20 - 100 psi)	
Air inlet port	1/2" BSP (F)	
Air exhaust port	Exhaust muffler included (3/4" (F) threaded port for remote exhaust)	
Noise Level (7 bar – 100 psi / 1 m - 3 ft)	80 dB (A)	
Air motor & pump design	Divorced type	
Model	PM100 16SFC	PM100 22SFC
Part No.	545 011	545 010
Pump Ratio	16:1	22:1
Fluid inlet type	Chop-check valve with priming disc	Chop-check valve with priming disc
Fluid inlet	4" flange	4" flange
Fluid outlet thread	1 1/2" BSP (F)	1 1/2" BSP (F)
Displacement per cycle	625 cc	442 cc
Aprox. cycles per litre	1,6	2,2
Standard flow rate*	11 kg/min	8 kg/min
Dimensions X-Y-Z (mm)	715 - 538 - 105	715 - 538 - 90
Weight	93,5 kg	95 kg
Application	Power Ram with 200 kg drums or totes using a Floor Stand Suction Kit	Power Ram with 200 kg drums or totes using a Floor Stand Suction Kit

\*Flow rates with ink at 7 bar – 100 psi air inlet pressure.

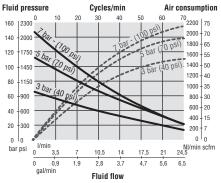
SAMOA recommends pumps to work at 20 cycles per minute for reduced wear on moving parts and minimized maintenance.

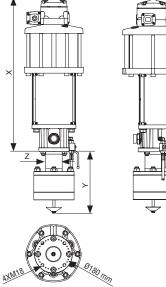
*	S = Chop-check Valve with Priming Disc	F = UHMWPE Seals	C = Carbon Steel and Cast Iron Fluid Outlet Body
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## **PERFORMANCE CURVES** (#10 weight oil, ambient temperature)



## PM100 22:1 Chop-check valve







# **Ink Piston Pump Packages**

# **Pump Systems with Power Ram**



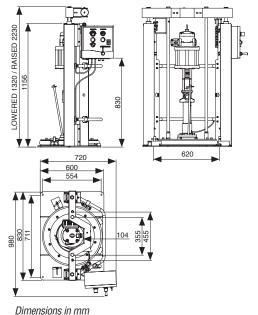


SAMOA

# Dreadnought PM60, Warrior PM80 and Dominator PM100 series ink pumps mounted onto an air operated inductor plate for use with high viscosity fluids directly from 200 kg drum.

When the inductor plate is attached to the lower end of the pump tube, the weight of the pump and plate and the downward pressure from cylinders on the plate forces material priming. The inductor plate also serves as protection against contaminants and eliminates material waste.

Technical specifications	
Ram cylinders diameter	80 mm
Overall height lowered	1.320 mm
Overall height raised	2.230 mm
Available lift	1.000 mm
Air inlet	1/2" BSP
Operating compressed air press. range	0 - 7 bar (0 - 100 psi)
Base plate dimensions	830 x 600 mm



The inductor system includes guide rods, drum retaining mechanism and a control box with the following features:

- On/ Off control of the Pump.
- Up / Down control of the Ram for easy drum exchange.
- Two independent air pressure regulators, one for the Pump and the other for the Power Ram cylinders.
- Pump / Ram independent air pressure gauge.
- Empty drum shut-off safety feature.
- Automatic Vacuum release.

Pumping Stations / 200 kg drums	
Part. No.	Included pump
543 911.270	PM60 - 12:1 (543 011)
543 910.270	PM60 - 22:1 (543 010)
544 910.270	PM80 - 20:1 (544 010)
545 911.270	PM100 - 16:1 (545 011)
545 910.270	PM100 - 22:1 (545 010)



# Ink Piston Pump Packages

# **Pump Systems with Hoist**



## Pump Hoist ease change-over of empty containers.

An internal cylinder lifts the pump from the container. The pump is fixed to the single lip follower plate and the weight of the air motor, pump, and mounting bracket maintains pump prime. The unit is very robust and easy to use. It includes a pneumatic valve which controls the pump lift up and down movement.

Technical specific	ations		
		50 kg drums	200 kg drums
Hoist cylinder diameter		85 mm	85 mm
Overall height lower	Overall height lowered		1.620 mm
Overall height raised	1	2.028 mm	2.620 mm
Available lift		700 mm	1.000 mm
Air inlet		1/2" BSP	1/2" BSP
Operating compressed air pressure range		0 - 7 bar (0 - 100 psi)	0 - 7 bar (0 - 100 psi)
Pumping Stations	Part. No.	Included pump	
	542 920.270	PM45 - 11:1 (542 011)	
50 kg drums	542 921.270	PM45 - 17:1 (542 010)	
JU KY UTUIIIS	543 920.270	PM60 - 12:1 (543 011)	
	543 921.270	PM60 - 22:1 (543 010)	
	542 925.270	PM45 - 11:1 (542 011)	
	542 926.270	PM45 - 17:1 (542 010)	
200 kg drums	543 925.270	PM60 - 12:1 (543 011)	
	543 926.270	PM60 - 22:1 (543 010)	
	544 925.270	PM80 - 20:1 (544 010)	

# Floor Stand Suction Kits



The pump is mounted to a floor stand using a flange. It is the recommended way of installing a pump when used with ink tanks, silos, IBC or any other type of stationary container.

## FOR WARRIOR PM80 PUMP Part No. SS-KIT-3

Floor Stand 3" Suction Kit with 3" suction hose with camlock connector and 4" pump foot with all necessary fittings and adaptors for Warrior PM80 pump.

(Pump not included).

## FOR DOMINATOR PM100 PUMPS Part No. SS-KIT-4

Floor Stand 4" Single Suction Kit with 4" suction hose and 4" pump foot with all necessary fittings and adaptors for Dominator PM100 pump.

(Pump not included).

#### Part No. DS-KIT-4

Floor Stand 4" Twin Suction Kit with 4" suction hose, twin suction manifold, two full bore valve and two 4" pump foot with all necessary fittings and adaptors for Dominator PM100 pump. *(Pump not included).* 

# **Ink Piston-Pumps Accessories**

Volume Meter for Ink

piston type, flow meter.

volumes used.

Max. pressure

**Pulses per liter** 

Inlet and outlet ports

Volume pulse meter for ink.

Part No. 1036.100-ASSY

Accuracy

Part No. 1036

return valve.

high viscosity, abrasive inks.

**Technical specifications** 

High pressure, positive displacement, oscillating

Robust construction allows measurement of

Manufactured in stainless steel with phosphor

bronze piston thus providing accurate,

A non-volatile, digital, remote display can be

connected to register ink batch and ink total

20

Volume pulse meter and filter assembly. Includes in line meter, 1" ink filter and non-

+- 2%

1" BSP (M)

140 bar - 2,000 psi

repeatable, ink consumption measurement.



# Ink filtration

The installation of ink filters between the pumping station and the printing press is an essential requirement for ensuring print quality and preventing potential printing press damage from foreign particles. SAMOA-Hydrair ink filters provide progressive filtration at high flow rates and include telltale indicators for preventive maintenance alert.

Ink filtration kits are supplied with high pressure hoses, check valve and adaptors for close pump mounting.

Ink filters have two standard screens: Primary screen Ø 3 mm (1/8") bore Secondary screen 40 mesh supported by Ø 3 mm (1/8") bore.

#### Part No. 2044-100-ASSY

1" filter assembly. Includes check valve and adapters.

## Part No. 2044-200-ASSY

2" filter assembly. Includes check valve and adapters.

# **Manual Spreader Bars**

Ink spreader bars are mounted above printing press ink fountains and ensure that an even ink flow is distributed across the fountain width. Adjustable ink flow valves balance the ink flow distribution. The spreader bar is easily detachable to facilitate duct cleaning and ink colour change. A manually operated, spring return valve controls the ink flow.

#### Part No. 1045-M

Single width manual spreader bar with valved outlets, 1 metre long high pressure connection hose, quick release coupling, pipe mounting brackets and manually operated ball valve.

#### Part No. 1045-MS

Single width manual spreader bar with valved outlets, 1 metre long high pressure connection hose, quick release coupling, pipe mounting brackets and spring return ball valve.

Further models, including automatic control and double width spreader bars are available on demand. Please contact your authorized SAMOA distributor.



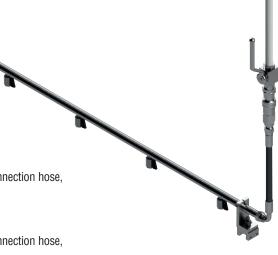
# Four Colours Dispensing Table

The ink-dispensing table includes four, colour, ink valve outlets with non-drip tip. Ideal for replenishing small containers from a central pump station. Recommended container size between 1 kg and 20 kg.

Table is manufactured from a carbon steel, painted frame with stainless steel worktop. Maximum weight 4 x 20 kg containers.

#### Part No. DB-4

Ink dispensing table with four outlets.





# 

# Air Operated Double Diaphragm Pumps

INNOVATIVE | UNIQUE | SIMPLE | RELIABLE | DURABLE | COMPACT | EFFICIENT | QUIET | VERSATILE

# **Innovative Central Flow Technology**

The Directflo<sup>®</sup> pump is the inside out pump!. The fluid flows through the inside of the pump and compressed air acts on the outside of the pump diaphragms.

Important innovations were necessary to realise the central flow pump design, during Directflo<sup>®</sup> development new inventions were made that enhanced the central flow concept. Many design benefits are highlighted below.





- REDUCED AIR CONSUMPTION
- COMPACT DESIGN
- SMOOTH RUNNING
- REDUCED PULSATION



- SUPERIOR ALL-ROUND PUMPING PERFORMANCE
- SIMPLE, RELIABLE & DURABLE
- ROBUST
- LONG LIFE DIAPHRAGMS

# Quick and simple maintenance



- Frictionless pivoting air valve
- Ball check valves adjacent to diaphragms
- Stress free diaphragm couplings
- Single part moulded pump body

D





# **For Printing Industry**

Diaphragm pumps are widely used for different applications within the printing industry. The high performance AODD pumps are ideal for pumping low viscosity solvent based inks, fount solutions, blanket wash solutions and wash-up fluids.

A comprehensive range of internal pump, wetted-part, material configurations guarantee product compatibility.

Technical specifications							
	DF30 pumps	DF50 pumps	DF100 pumps				
Pressure ratio	1:1	1:1	1:1				
Maximum free delivery	38 l/min	50 l/min	100 l/min				
Delivery per stroke	0,07 liters	0,1 liters	0,25 liters				
Air pressure operating range	1,5 to 8 bar	1,5 to 8 bar	1,5 to 8 bar				
Solids in suspension maximum size	3 mm	3 mm	4 mm				
Maximum dry suction head	2,5 m	6 m	4,5 m				
Maximum wet suction head	8 m	8 m	7 m				
Fluid inlet and outlet	1/2" BSP / NPT (F) and flange	1/2" BSP / NPT (F) and flange	1" BSP / NPT (F) and flange				

## **RECOMMENDED MODELS FOR USE WITHIN THE PRINTING INDUSTRY**

Part No.	Max. pump delivery	Pump body	Diaphragms	Balls	Other wetted materials	
Water based inks						
DF30PPP88THBAS	38 l/min	Polypropylene	Hytrel®	PTFE	Stainless steel, polypropylene, EPDM, PTFE (all plastic exterior)	
DF50PPP88THBAS	50 l/min					
DF100PPP88THBAS	100 l/min					
Solvent based inks and solvents – ATEX pumps						
DF50AAA56TTBAS	50 l/min	Aluminum	PTFE	PTFE	Conductive PTFE, PTFE, Acetal, Stainless steel, EPDM	
DF100AAA56TTBAS	100 l/min					
DF30BDN56TTBAS	38 l/min	Conductive Acetal	PTFE	PTFE	Conductive PTFE, PTFE, Acetal, Stainless steel, EPDM (all plastic exterior)	
DF50BDN56TTBAS	50 l/min					
DF100BDB56TTBAS	100 l/min					
Water, chemicals and glues treatment applications						
DF30PPP38TTBAS	38 l/min	Polypropylene	PTFE	PTFE	PTFE, Polypropylene, Stainless steel, EPDM (all plastic exterior)	
DF50PPP38TTBAS	50 l/min					
DF100PPP38TTBAS	100 l/min					

\* Please consult us for other configurations.

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#### **FLOW DIVISION**

#### SAMOA INDUSTRIAL, S.A. WORLDWIDE HEADQUARTERS

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