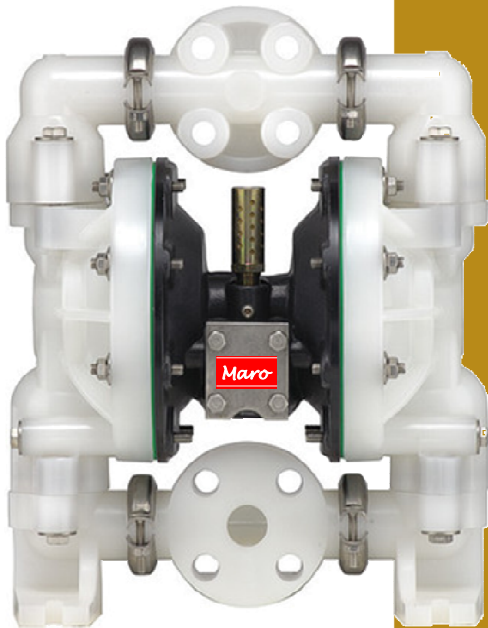
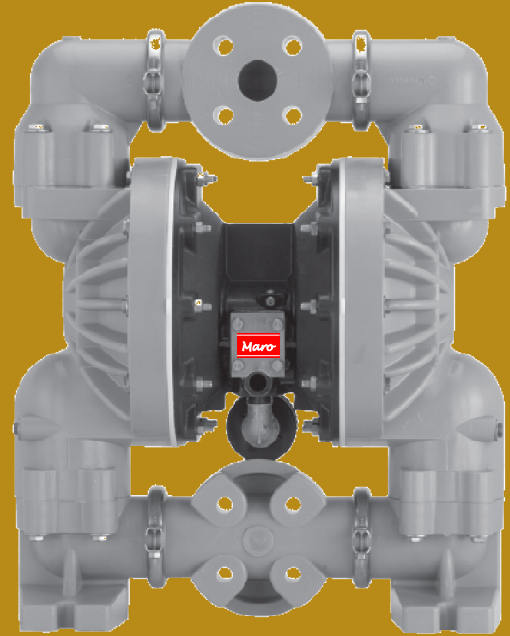
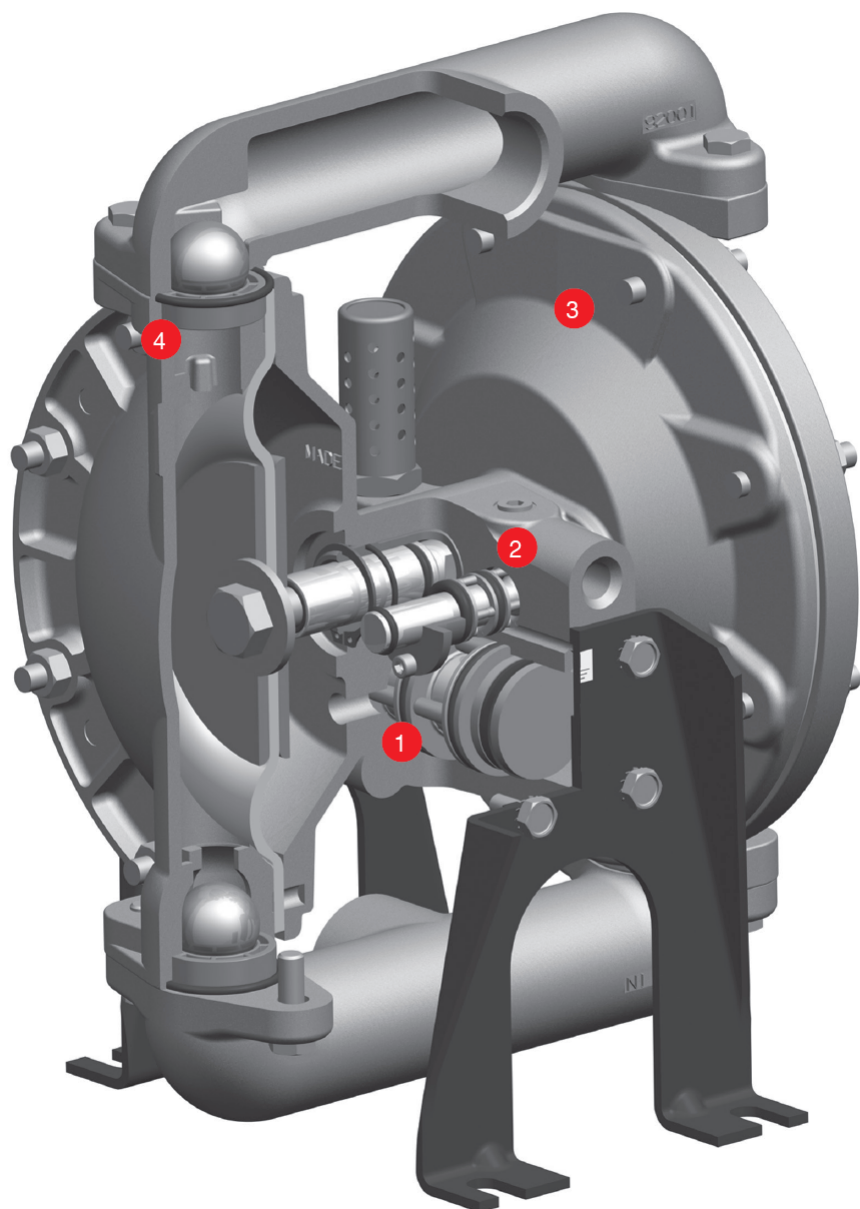


Maro



*Air-Operated Double
Diaphragm Pumps*

Value Proposition



MARO Diaphragm Pumps: Keys to MARO Air Motor Technology

1. "Unbalanced" Major Air Valve

- Unbalanced valve design eliminates valve centering and pump stall-out, even under low air inlet pressures.
- "O" Ring seals prevent waste of expensive compressed air.
- Air flow stops when fluid flow stops.
- Maintenance is simple: just replace the worn "O" Rings and "U" Cups.

2. Independent Pilot Rod

- Utilizes pneumatics and mechanical action to shift Pilot Rod. Ensures positive pilot signal, avoiding stall-out.

3. Broad Material Selection

- Options allow you to optimize compatibility between the pump and fluid being moved.
- Non-Metallic Diaphragm Pumps are available in polypropylene, PVDF and groundable acetal.
- Check models for availability.
- Metallic Diaphragm Pumps are available in aluminum, stainless steel and cast iron. Check models for availability.

4. Diaphragm/Ball Check Options

- Fit your pump with the diaphragms and ball checks needed to maximize fluid compatibility and abrasion

Introducing the New High-Flow Pumps: HMA50 and HMA75:

At the far end of the fluid delivery spectrum, the new MARO HMA Series 2" and 3" port models feature MARO's patented "Unbalanced", stall-free air valve design and bolted construction for leak-tight integrity. With maximum delivery rates of 651 l/min (2") and 897 l/min (3"), the new high-flow pumps are the ideal answer to big volume applications - where performance with economy are a must.

Materials

Compound	Optimum Temperature	Main Applications / Chemical Compatibility
Neoprene	10 to 54 °C	General purpose diaphragm (non-aggressive applications – water-based slurries, well water or sea water).
	50 to 130 °F	
Buna-N	10 to 60 °C	Petroleum/oil-based fluids (leaded gasoline, fuel oils, non-synthetic hydraulic oils, kerosene, turpentine, motor oils).
	50 to 140 °F	
EPDM	10 to 60 °C	Extremely cold temperatures. Low cost alternative when pumping dilute acids or caustics.
	50 to 140 °F	
Viton	24 to 100 °C	Extremely hot temperatures. Aggressive fluids such as aromatic or chlorinated hydrocarbons and highly aggressive acids in applications involving suction lift outside the range of PTFE.
	75 to 212 °F	
Polyurethane	10 to 54 °C	Non-aggressive applications (water-based slurries, well water or sea water).
	50 to 130 °F	
Santoprene	10 to 100 °C	Low cost alternative to Teflon® in many acidic and caustic applications such as sodium hydroxide, sulfuric or hydrochloric, At a cost comparable to neoprene.
	50 to 212 °F	
Hytrel	10 to 54 °C	FDA approved for food processing applications. Outstanding general purpose diaphragm as well.
	50 to 130 °F	
PTFE	10 to 100 °C	Aggressive chemicals and solvent but low abrasion resistance.
	50 to 212 °F	

HMA15 Non-Metallic Pump



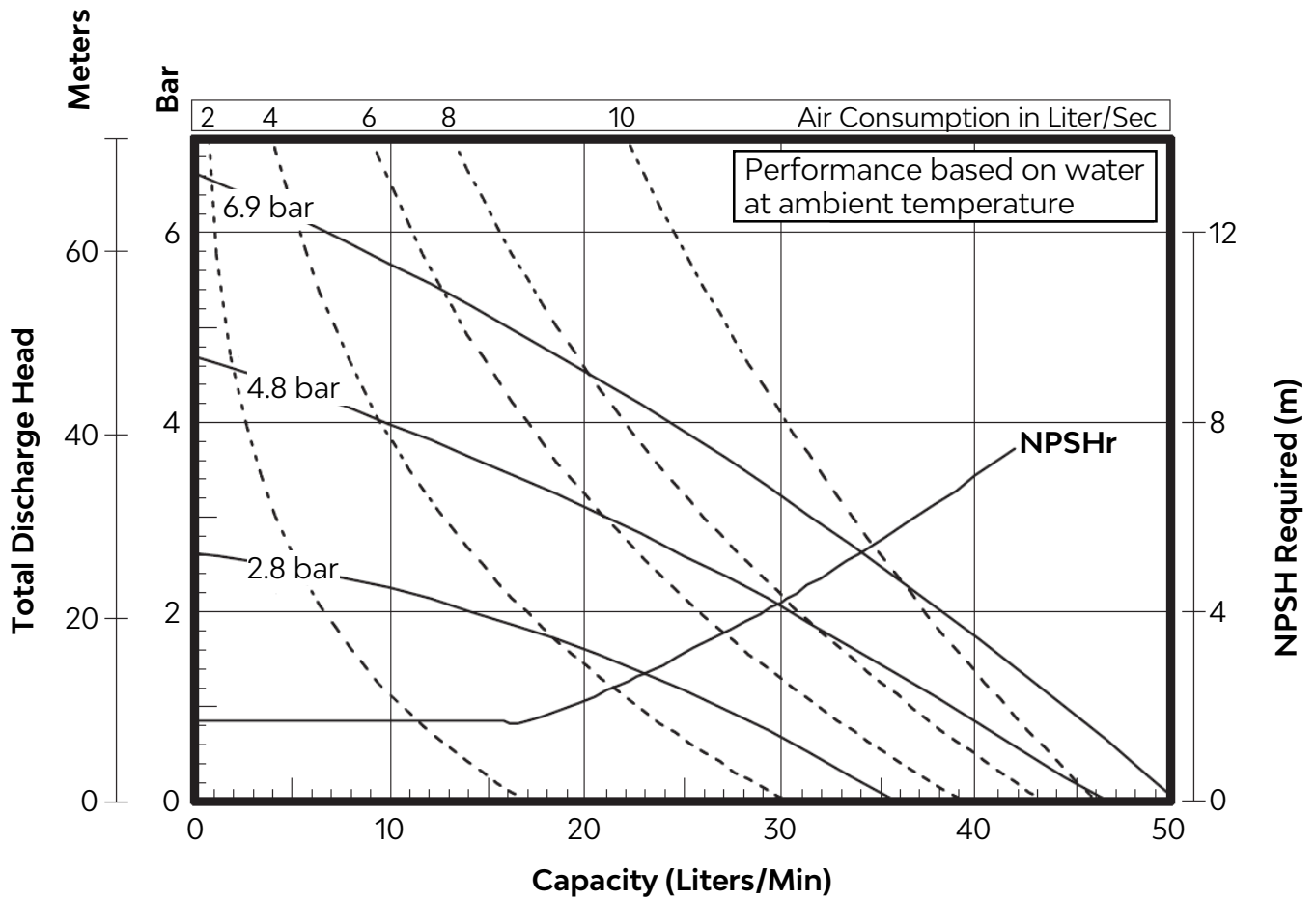
1/2" Non-Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	49.2 l/min (13 gpm)
Air Inlet:	1/4" BSP-Female
Fluid Inlet:	1/2" BSP-Female
Fluid Outlet:	1/2" BSP-Female
Max. working pressure:	6.9-bar (100 psi)
Suspended solids max. dia.:	2.4 mm (3/32")
Weight:	4 kg (8.8 lbs)
Maximum dry suction lift:	3.05 m (10 ft)

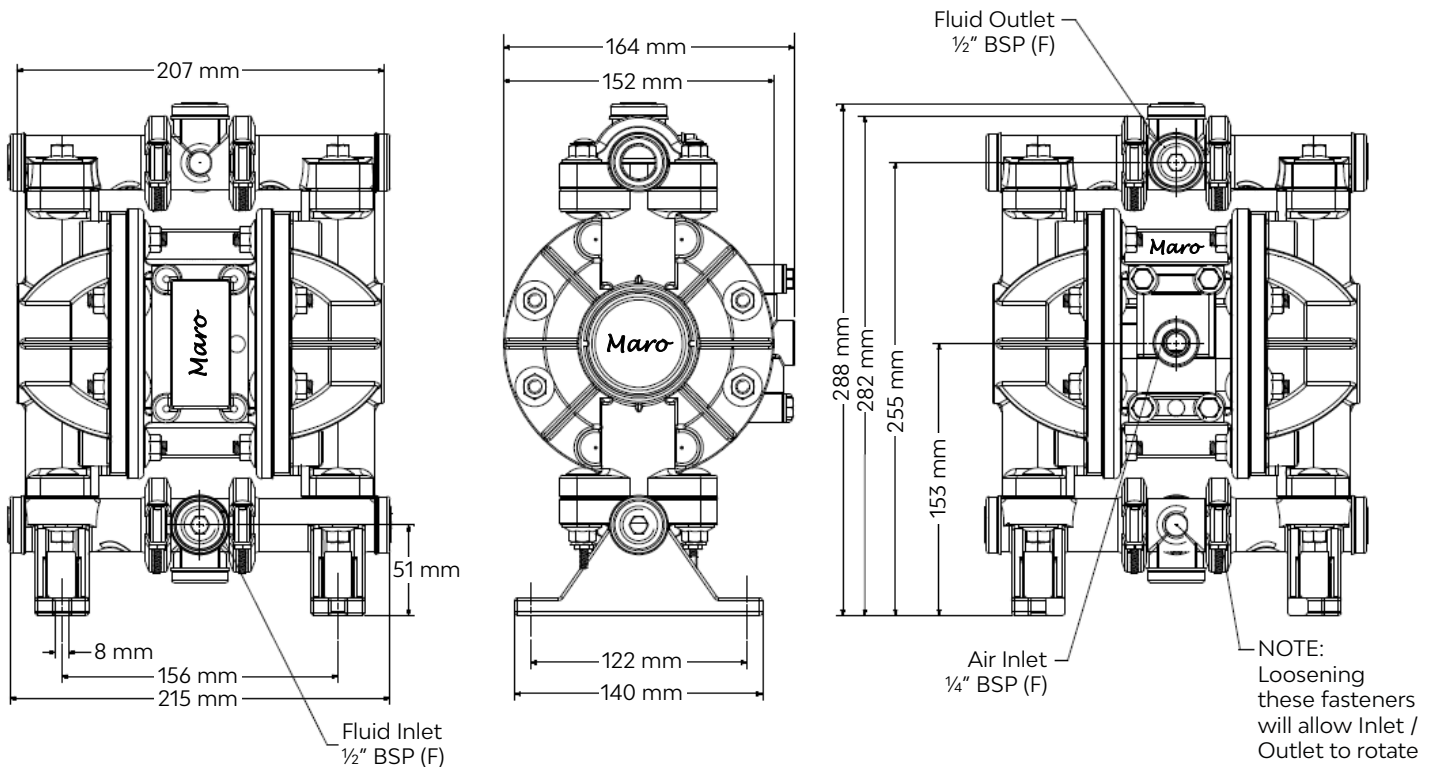
Identification Code

HMA	15	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	15: 1/2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

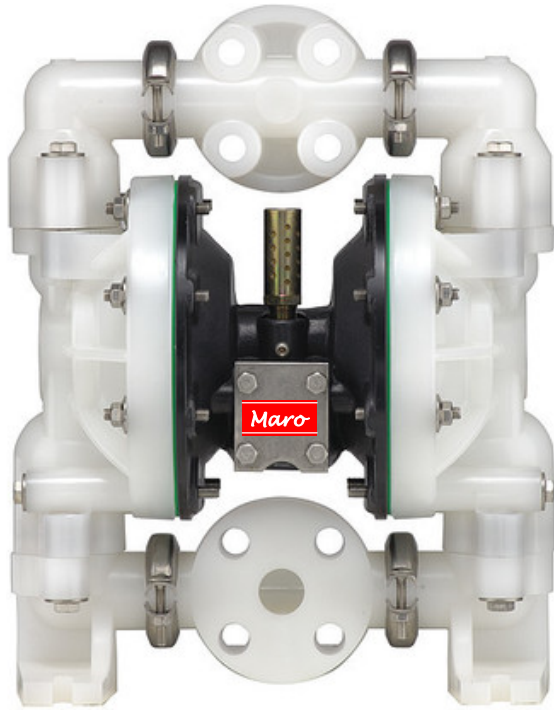
Performance Curve



Dimensions (mm)



HMA25 Non-Metallic Pump



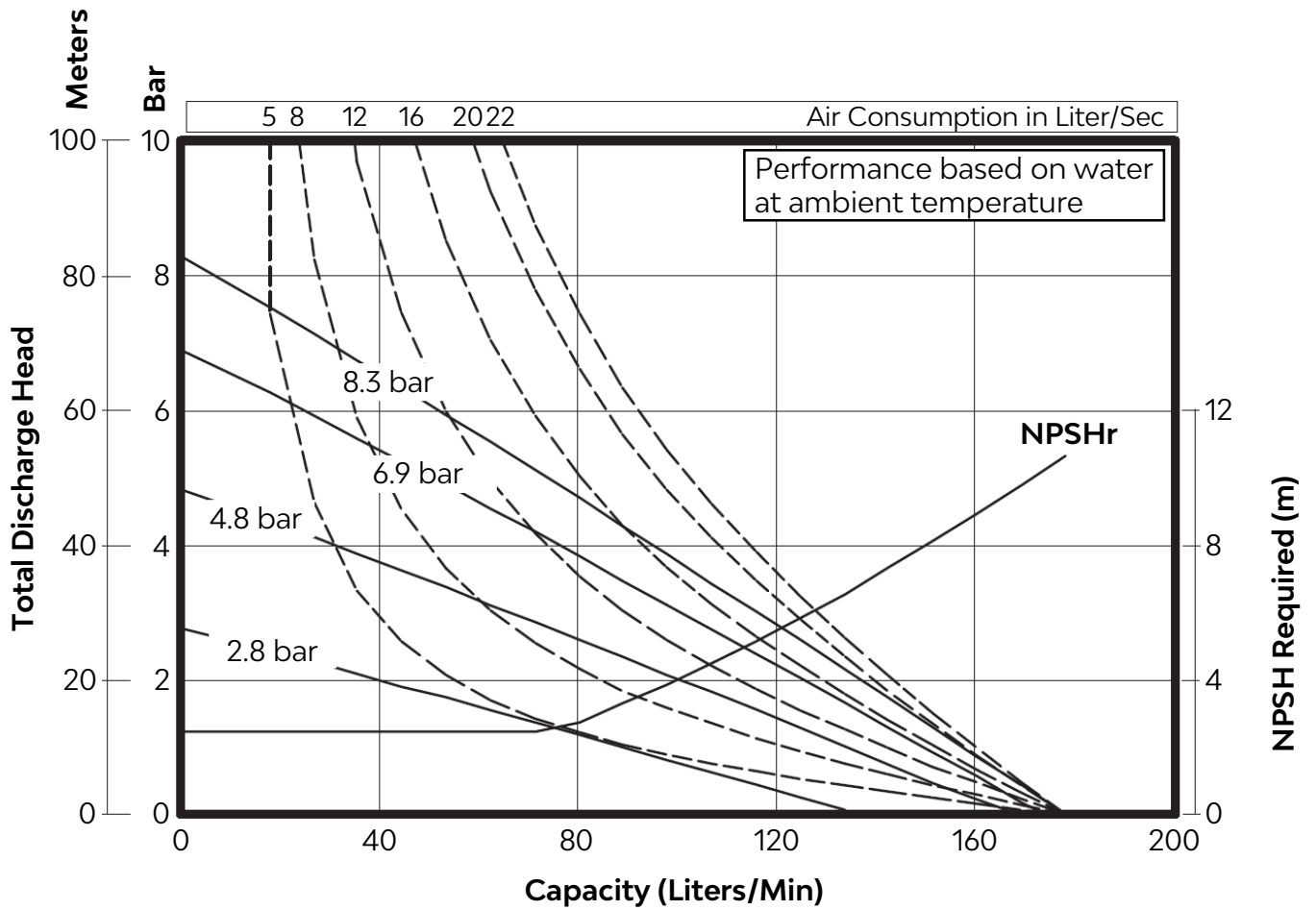
1" Non-Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	170 l/min (45 gpm)
Air Inlet:	¼" BSP-Female
Fluid Inlet:	1" ANSI/DIN Flange
Fluid Outlet:	1" ANSI/DIN Flange
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	3.2 mm (1/8")
Weight:	kg (lbs)
	HMA25-PX (Polypropylene) 9.5 (21)
	HMA25-KX (Kynar) 12.9 (28.4)
Maximum dry suction lift:	4.5 m (14.8 ft)

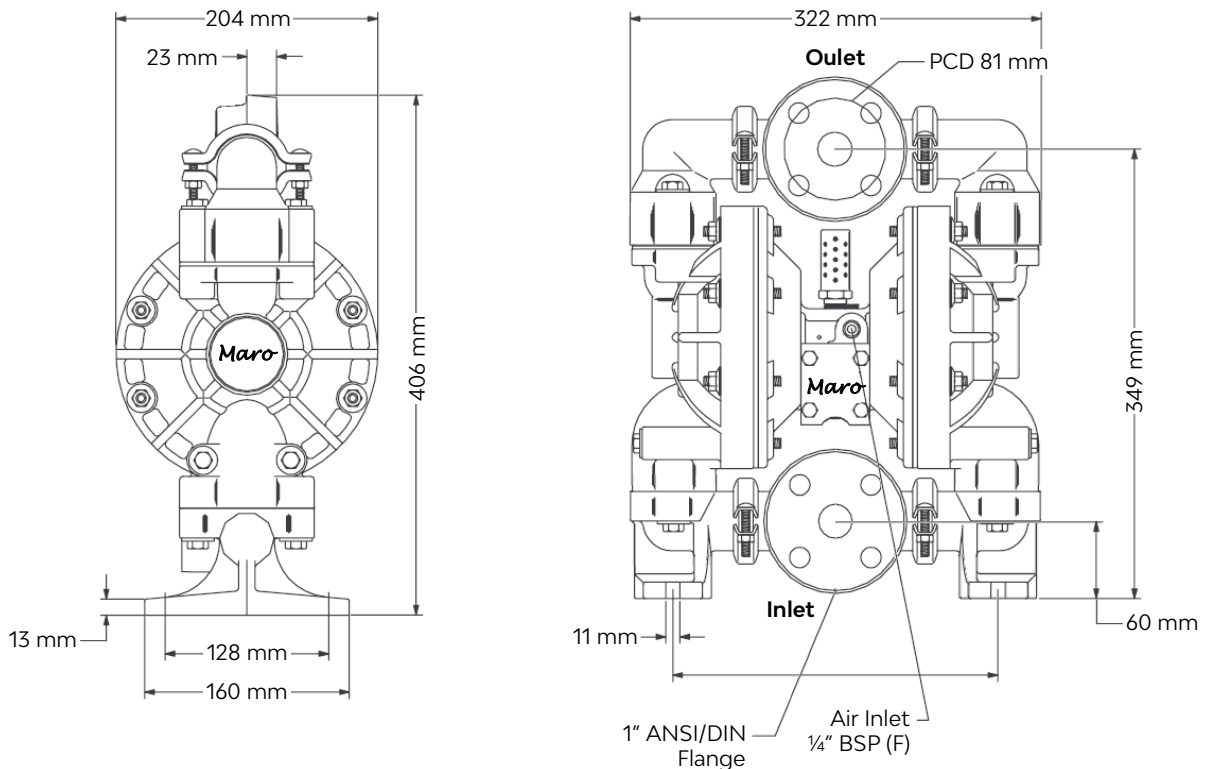
Identification Code

HMA	25	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	25: 1"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		F: Flange

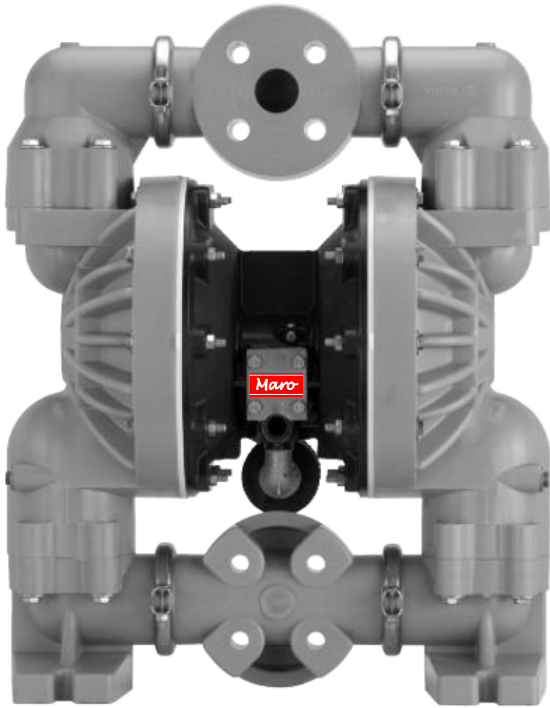
Performance Curve



Dimensions (mm)



HMA40 Non-Metallic Pump



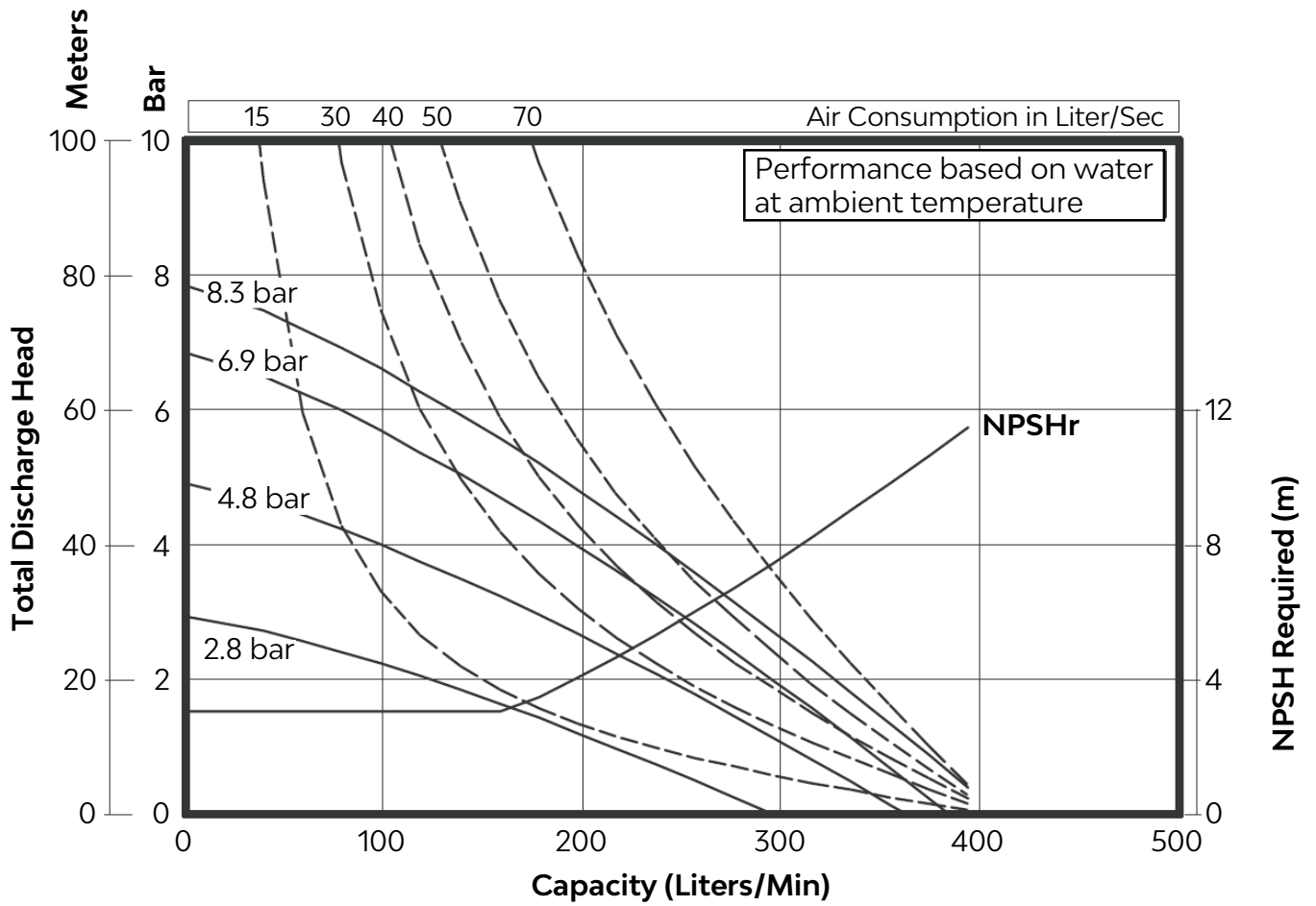
1-1/2" Non-Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	378 l/min (100 gpm)
Air Inlet:	1/2" BSP-Female
Fluid Inlet:	1-1/2" ANSI/DIN Flange
Fluid Outlet:	1-1/2" ANSI/DIN Flange
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	6.4 mm (1/4")
Weight:	kg (lbs)
	HMA40-PX (Polypropylene) 62 (28.1)
	HMA40-KX (Kynar) 92 (41.7)
Maximum dry suction lift:	4.27 m (14 ft)

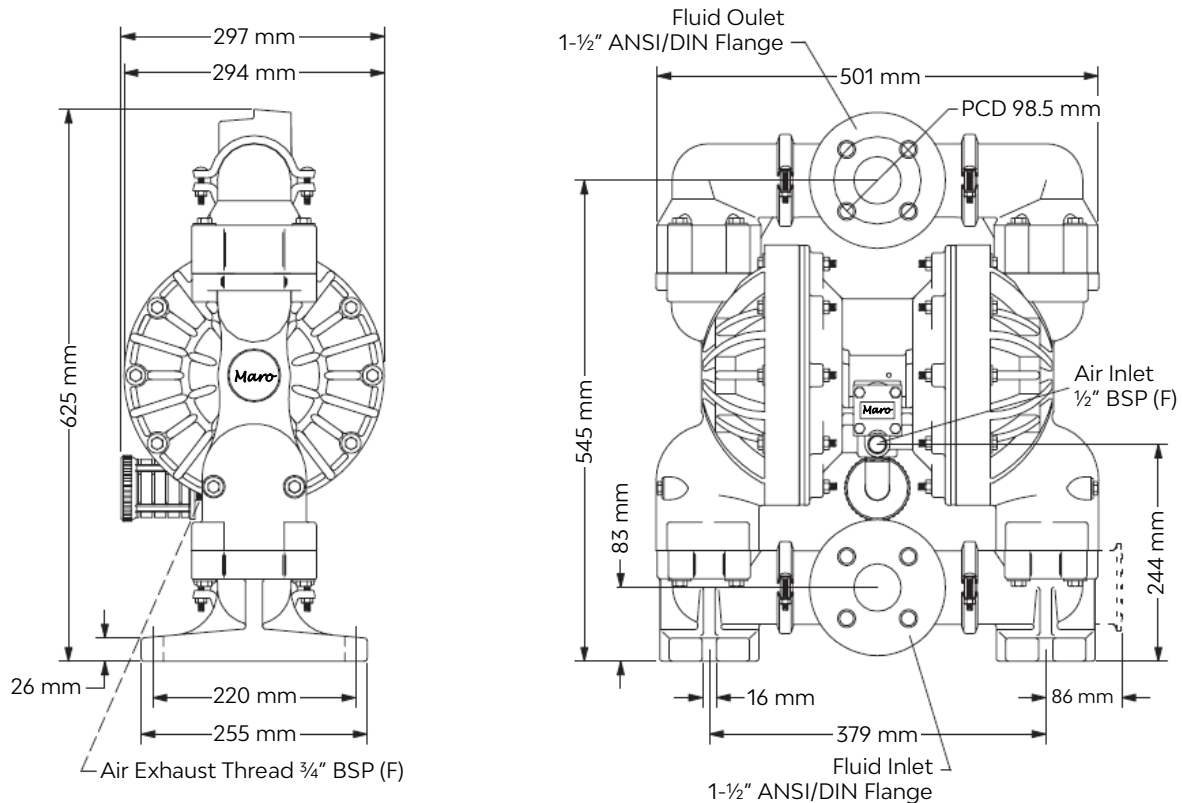
Identification Code

HMA	40	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	40: 1-1/2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		F: Flange

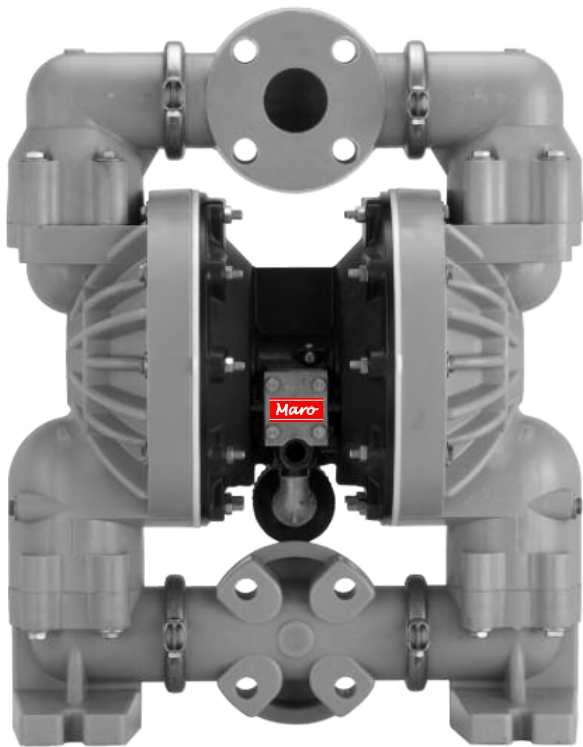
Performance Curve



Dimensions (mm)



HMA50 Non-Metallic Pump



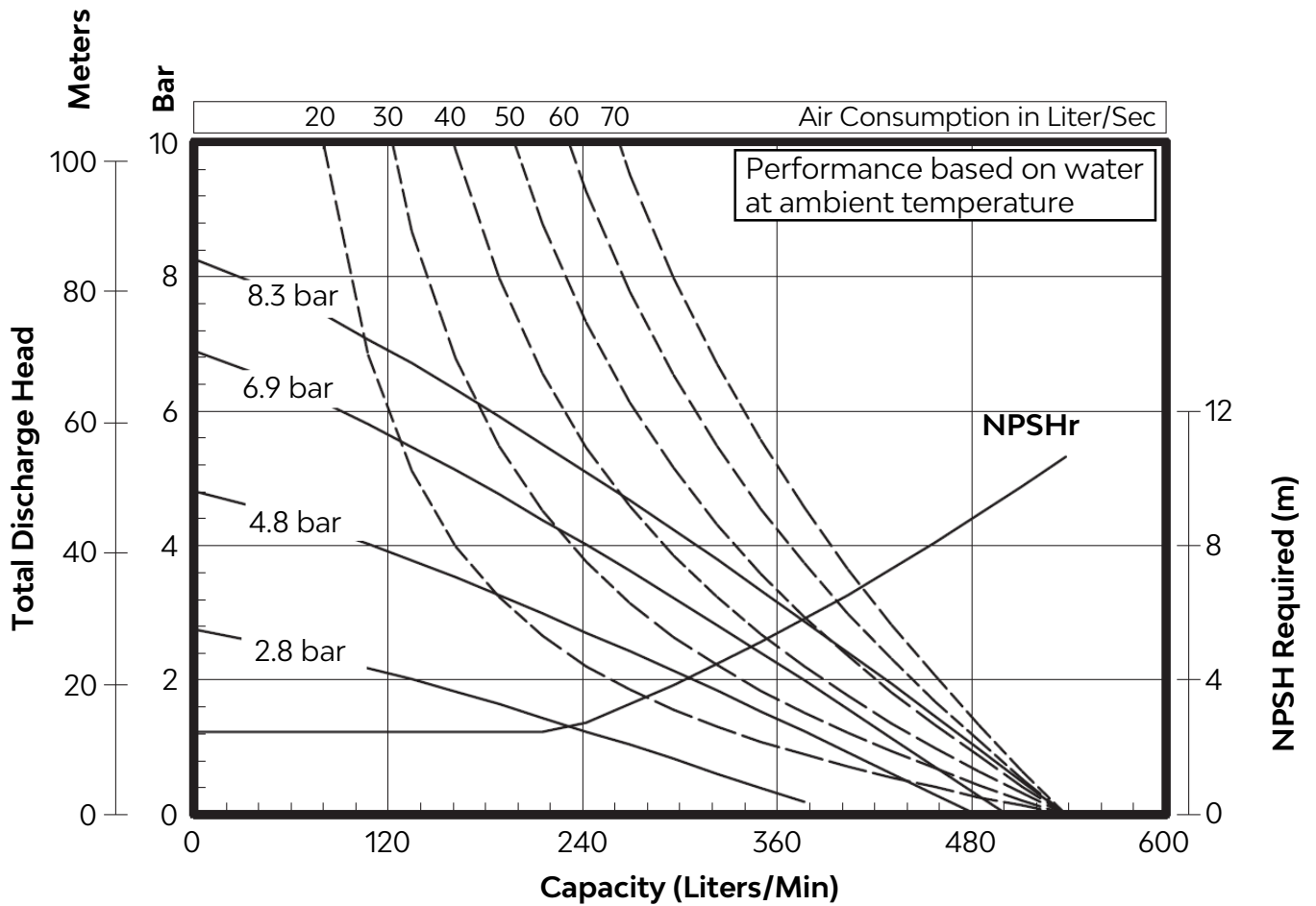
2" Non-Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	548 l/min (145 gpm)
Air Inlet:	½" BSP-Female
Fluid Inlet:	2" ANSI/DIN Flange
Fluid Outlet:	2" ANSI/DIN Flange
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	6.4 mm (¼")
Weight:	kg (lbs)
	HMA50-PX (Polypropylene) 62 (28.1)
	HMA50-KX (Kynar) 92 (41.7)
Maximum dry suction lift:	4.27 m (14 ft)

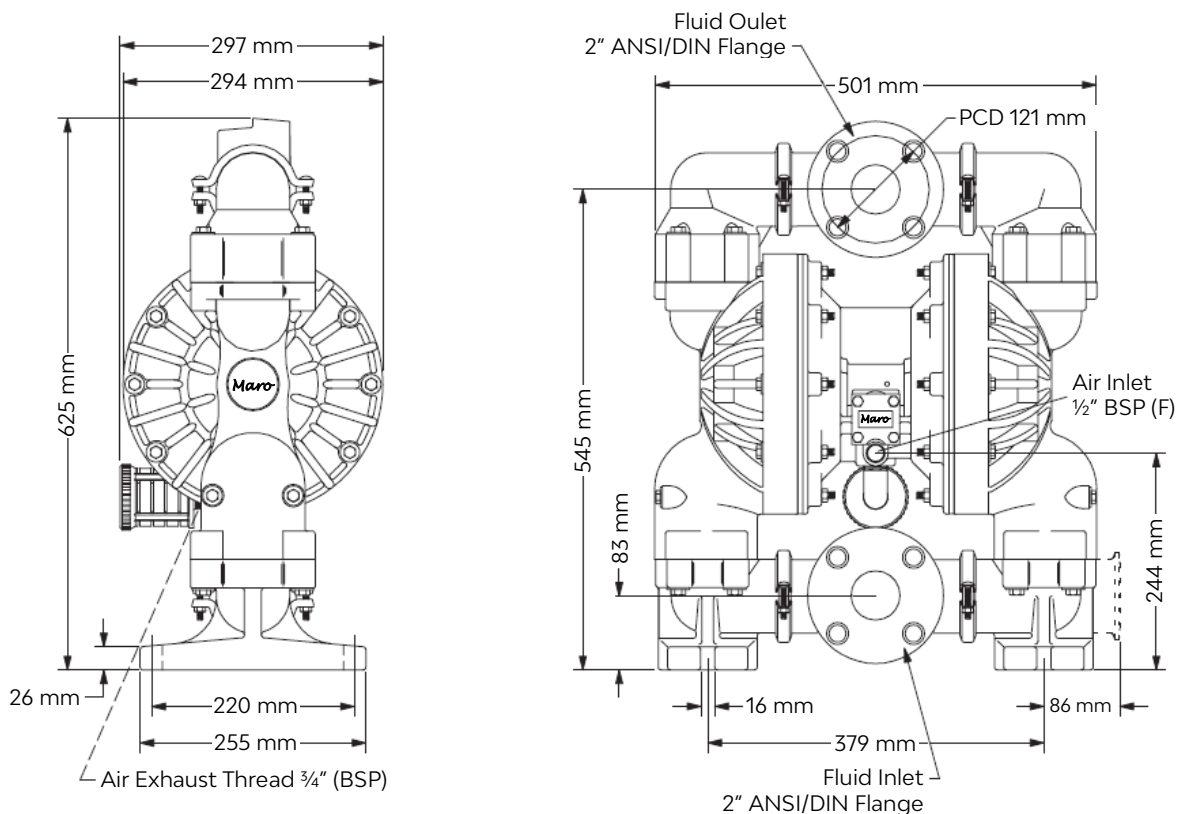
Identification Code

HMA	50	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	50: 2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		F: Flange

Performance Curve



Dimensions (mm)



HMA15 Metallic Pump



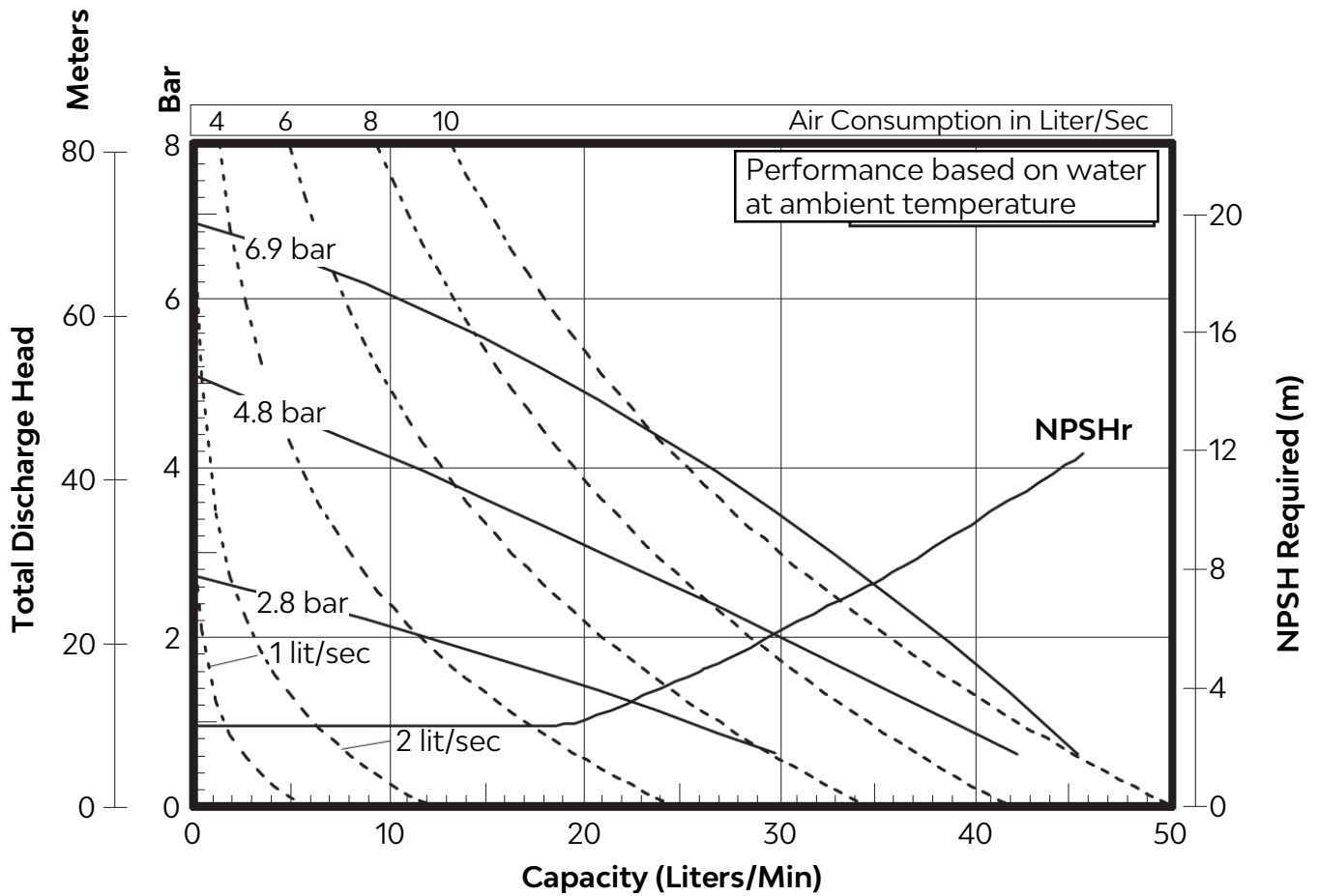
1/2" Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	45 l/min (12 gpm)
Air Inlet:	1/4" BSP-Female
Fluid Inlet:	1/2" BSP-Female
Fluid Outlet:	1/2" BSP-Female
Max. working pressure:	6.9-bar (100 psi)
Suspended solids max. dia.:	3.3 mm (1/8" inch)
Weight:	kg (lbs)
	HMA15-AX (aluminum) 10.4 (8.6)
	HMA15-SX (stainless steel) 16.6 (7.5)
Maximum dry suction lift:	3.3 m (10.8 ft)

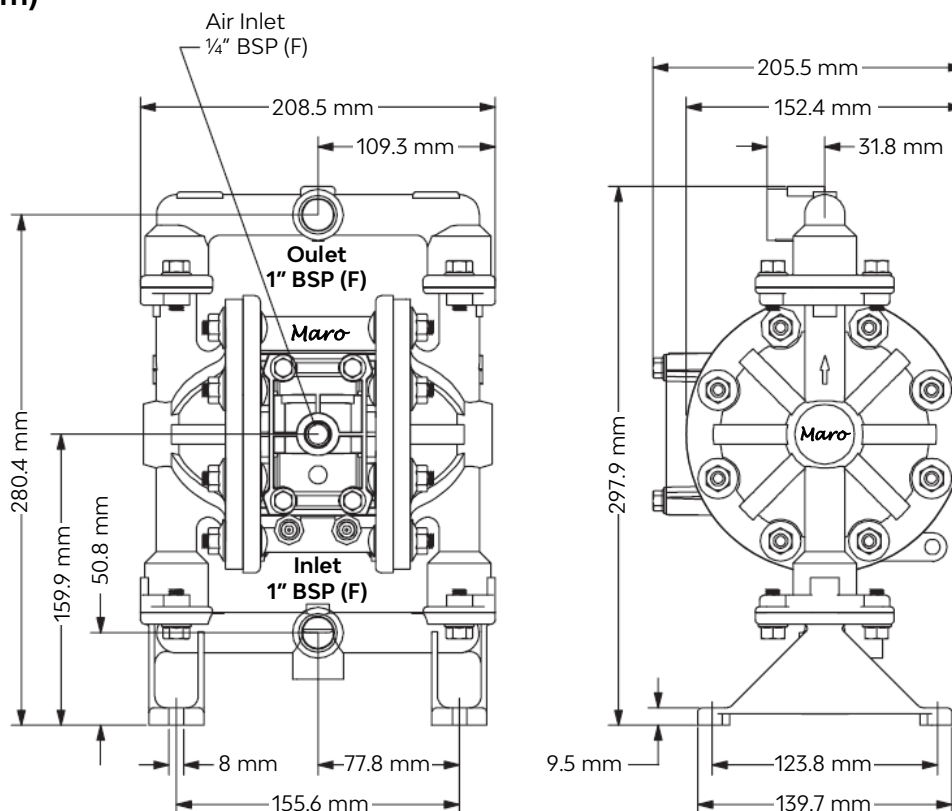
Identification Code

HMA	15	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	15: 1/2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

Performance Curve



Dimensions (mm)



HMA25 Metallic Pump



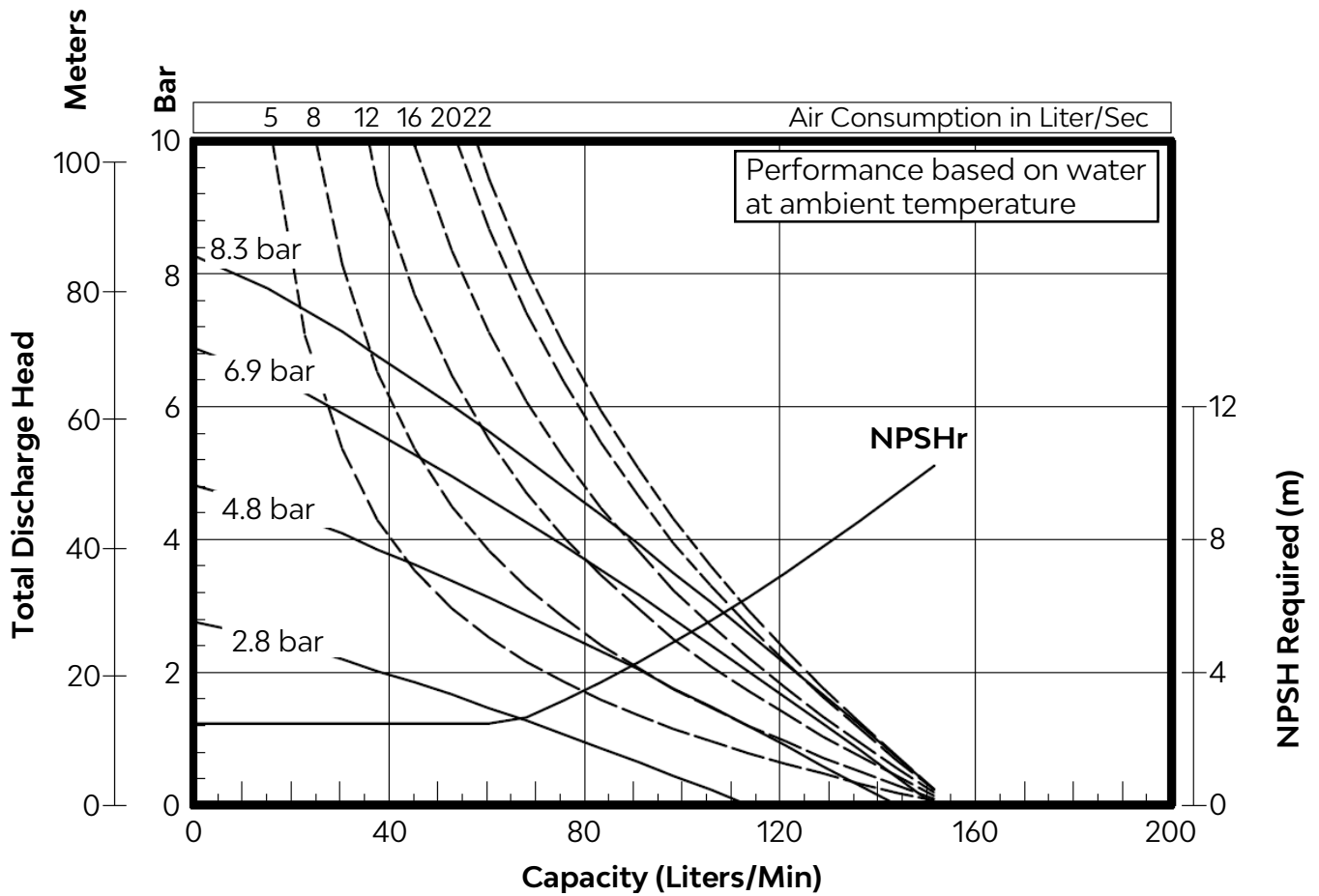
1" Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	133 l/min (35 gpm)
Air Inlet:	¼" BSP-Female
Fluid Inlet:	1" BSP-Female
Fluid Outlet:	1" BSP-Female
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	3.2 mm (¼" inch)
Weight:	kg (lbs)
	HMA25-AX (aluminum) 19 (8.6)
	HMA25-SX (stainless steel) 36 (16.3)
	HMA25-CX (cast iron) 31 (14.1)
Note:	Add 3.63 kg (8 lbs) for cast iron air motor section
Maximum dry suction lift:	6.1 m (20 ft)

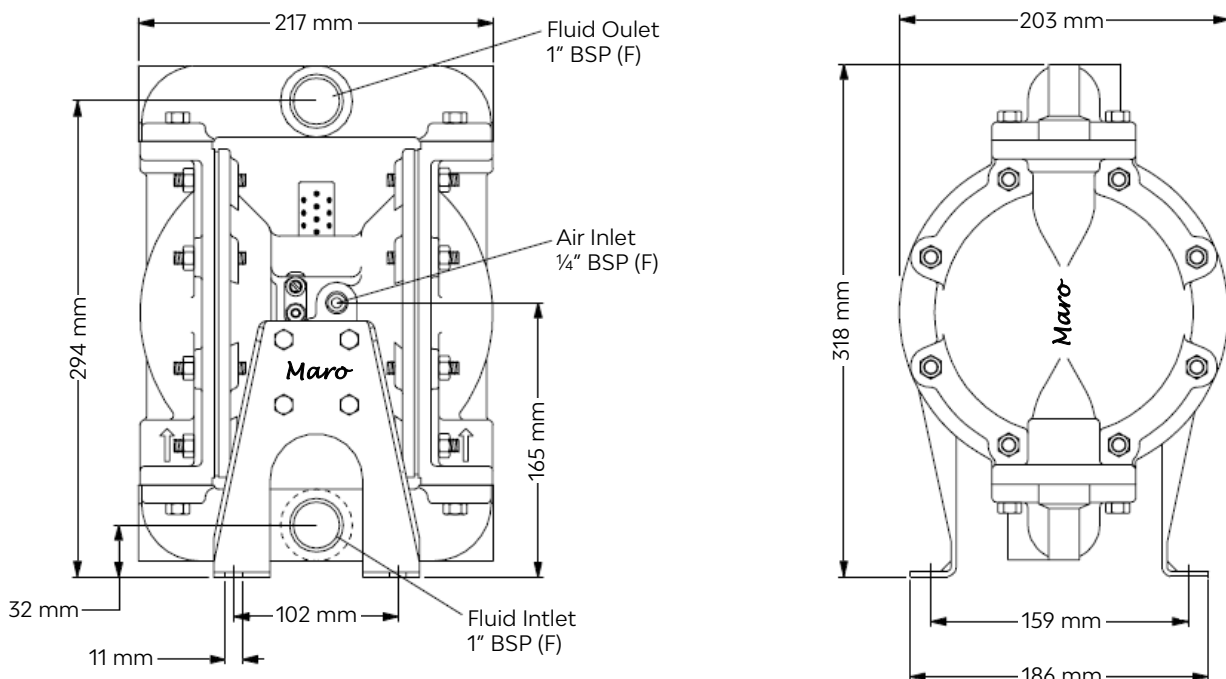
Identification Code

HMA	25	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	25: 1"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

Performance Curve



Dimensions (mm)



HMA40 Metallic Pump



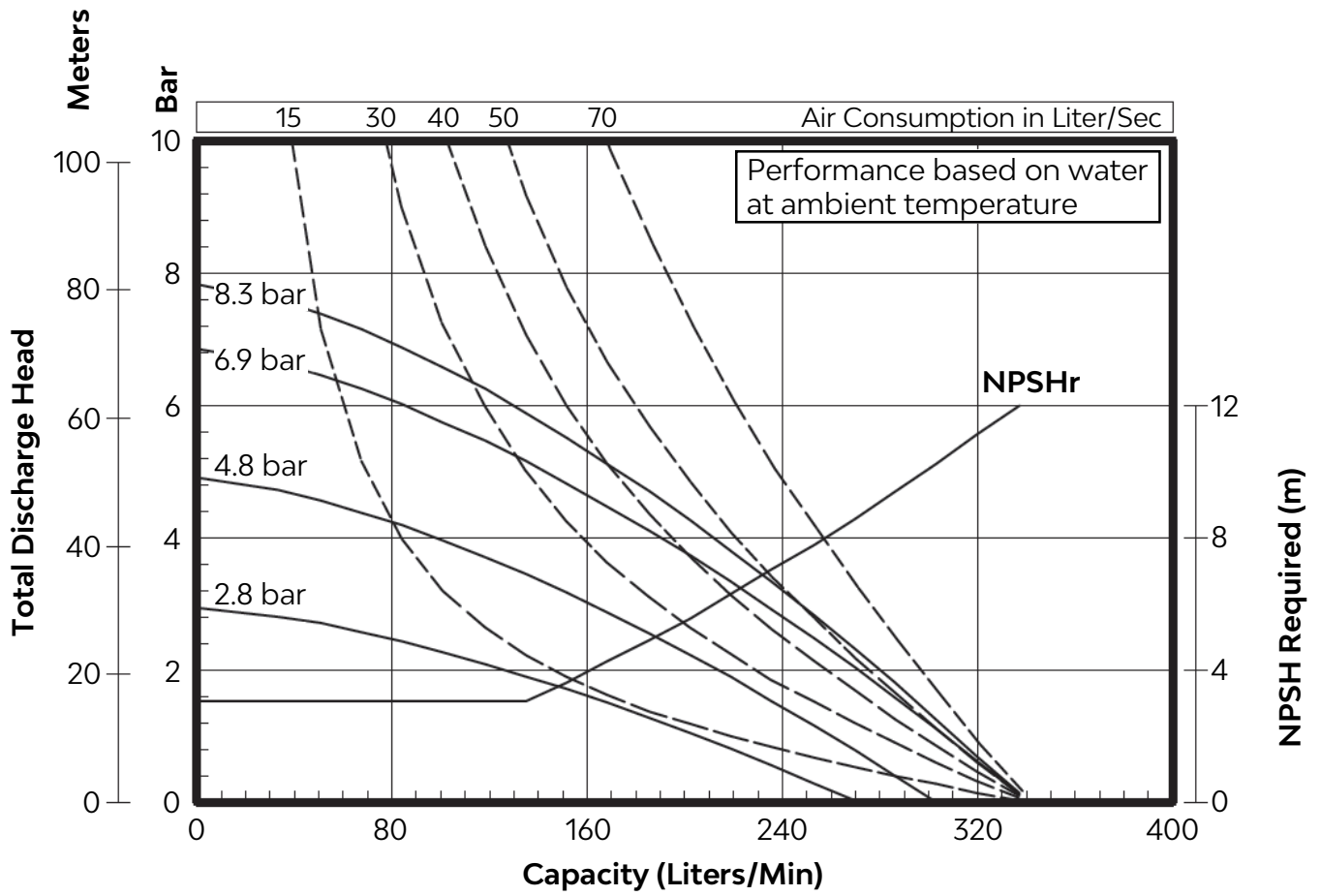
1-1/2" Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	340 l/min (90 gpm)
Air Inlet:	1/2" BSP-Female
Fluid Inlet:	1-1/2" BSP-Female
Fluid Outlet:	1-1/2" BSP-Female
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	6.4 mm (1/4" inch)
Weight:	kg (lbs)
	HMA40-AX (aluminum) 23.4 (51.5)
	HMA40-SX (stainless steel) 38.3 (84.5)
	MA40-CX (cast iron) 36.1 (79.5)
Note:	Add 10.4 kg (23 lbs) for cast iron air motor section
Maximum dry suction lift:	5.8 m (19 ft)

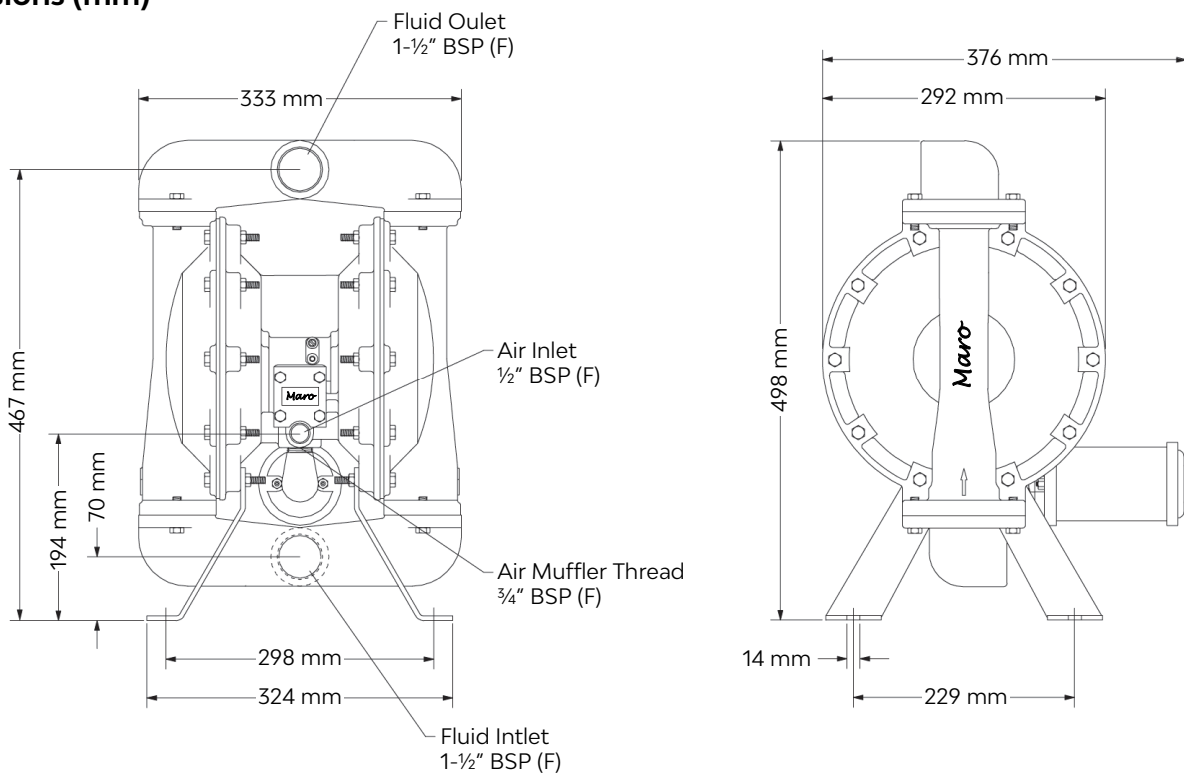
Identification Code

HMA	40	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	40: 1-1/2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

Performance Curve



Dimensions (mm)



HMA50 Metallic Pump



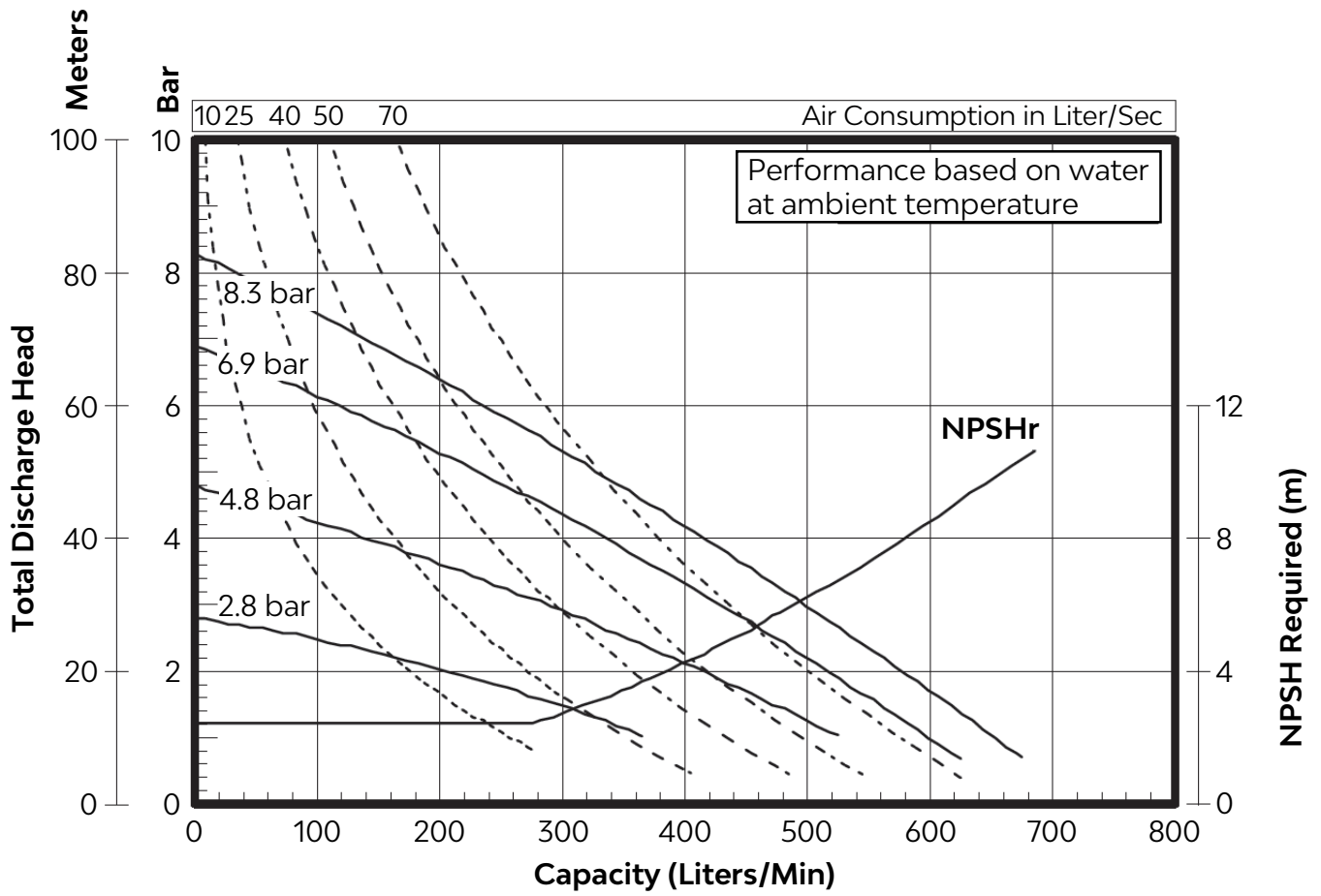
2" Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	650 l/min (172 gpm)
Air Inlet:	3/4" BSP-Female
Fluid Inlet:	2" BSP-Female
Fluid Outlet:	2" BSP-Female
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	6.4 mm (1/4" inch)
Weight:	kg (lbs)
	HMA50-AX (aluminum) 29.6 (65.2)
	HMA50-SX (stainless steel) 58.9 (130)
	HMA50-CX (cast iron) 124.3 (56.5)
Maximum dry suction lift:	8.3 m (27 ft)

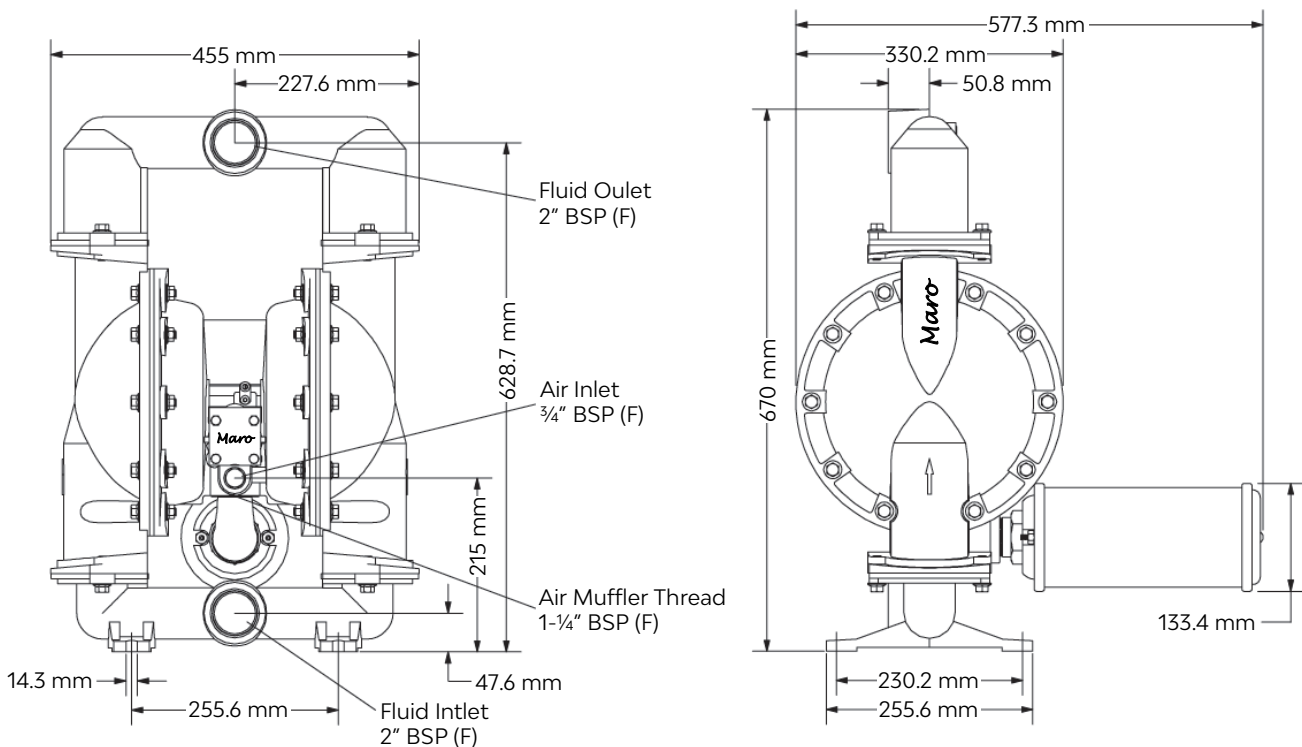
Identification Code

HMA	50	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	50: 2"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

Performance Curve



Dimensions (mm)



HMA75 Metallic Pump



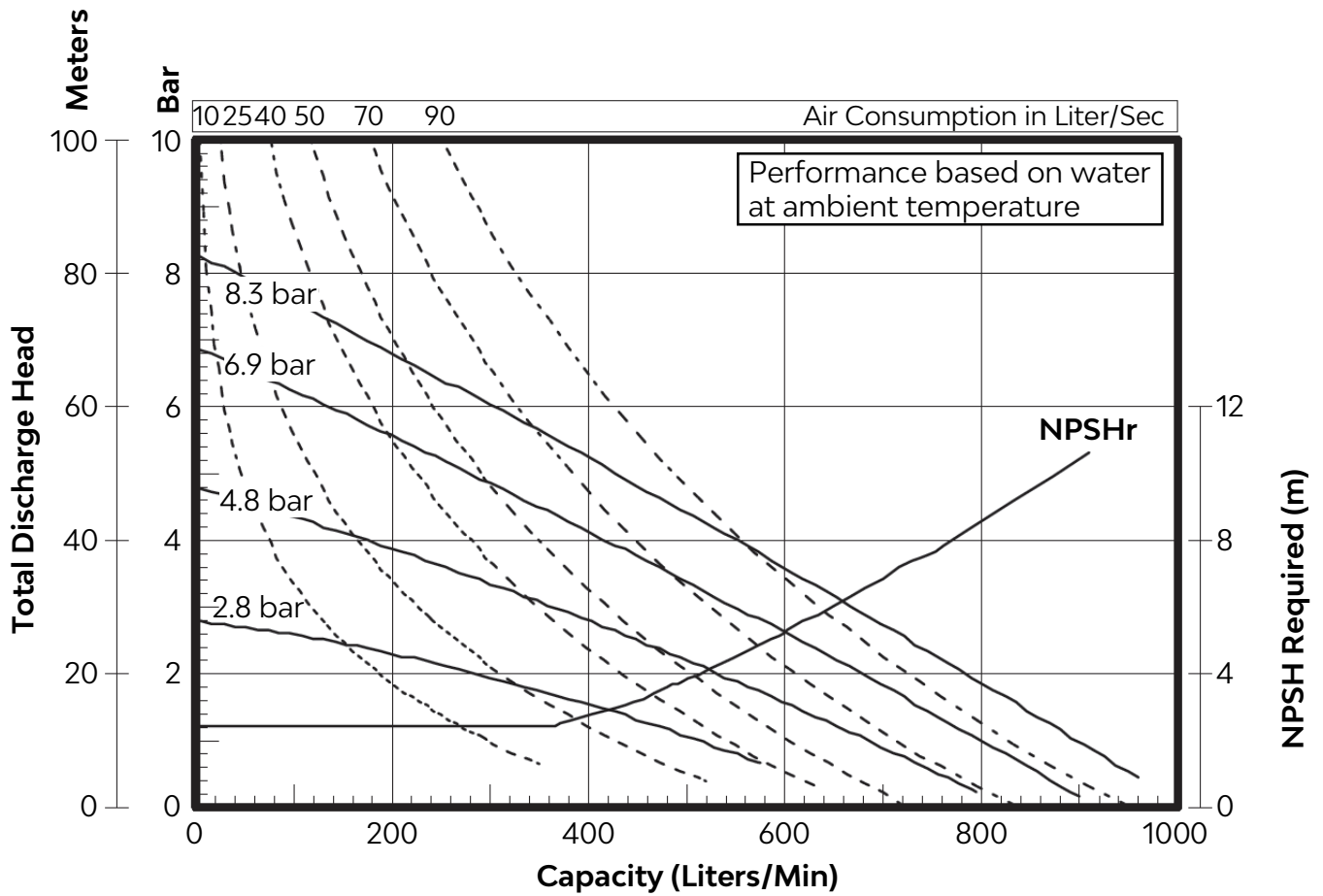
3" Metallic Performance Specifications

Ratio:	1 : 1
Maximum Capacity:	897 l/min (237 gpm)
Air Inlet:	3/4" BSP-Female
Fluid Inlet:	3" BSP-Female
Fluid Outlet:	3" BSP-Female
Max. working pressure:	8.3-bar (120 psi)
Suspended solids max. dia.:	9.5 mm (3/8" inch)
Weight:	kg (lbs)
	HMA50-AX (aluminum) 49.8 (109.8)
	HMA50-SX (stainless steel) 101 (222)
	HMA50-CX (cast iron) 96.7 (213)
Maximum dry suction lift:	5.4 m (17.6 ft)

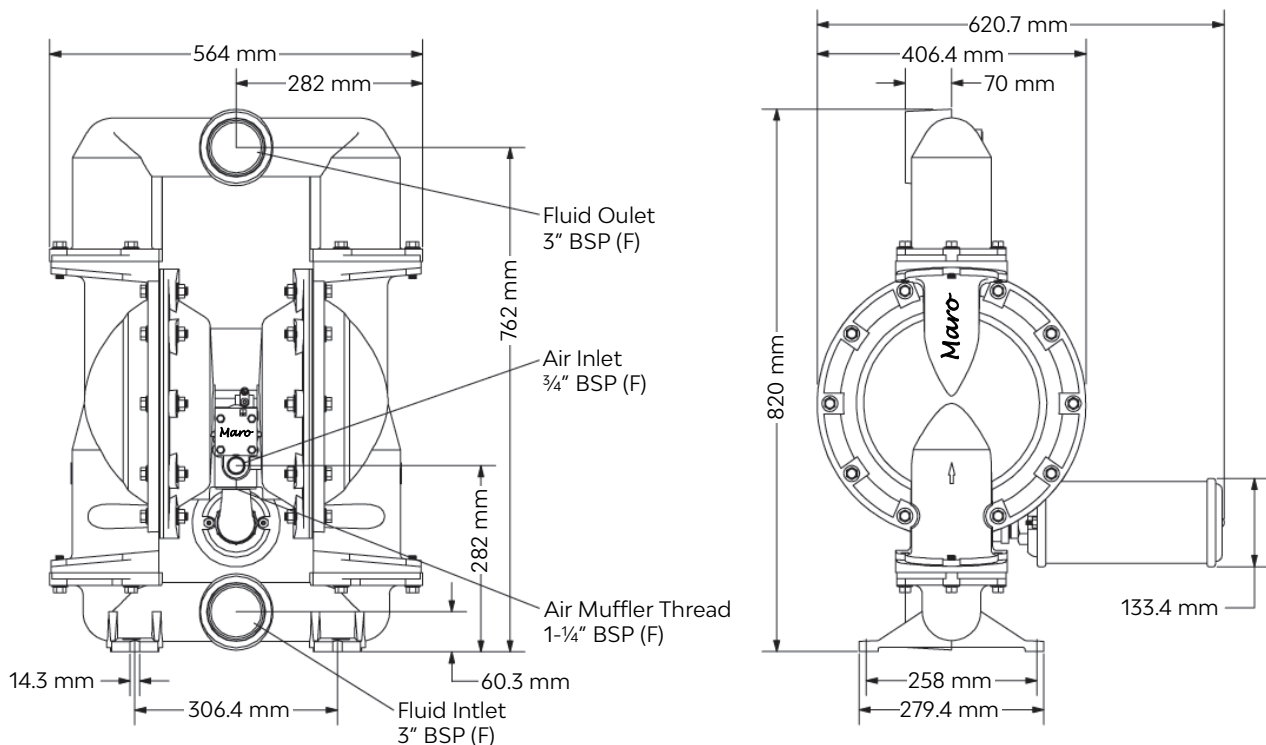
Identification Code

HMA	75	-	X	X	-	X
Series Type	Pump Size		Hardware Material	Elastomer Material		Connection Standard
	75: 3"		A: Aluminium S: Stainless steel C: Cast iron P: Polypropylene K: Kynar (PVDF)	S: Santoprene N: Nitrile T: Teflon (PTFE) V: Viton H: Hytrel		B: BSP

Performance Curve



Dimensions (mm)



Maro

HMA-Series Pumps
Non-Metallic & Metallic Models

MARO reserves the right to alter specifications at any time without prior notice.

Maro

www.maro.com.sg

Distributed by: