




PUMP TUBE DATA

PF Series¹ Pump Tubes

Sealless, High Performance

Unique double suction impeller provides high flow and high head. Handles acids, caustics, chemicals and flammables[†].

Applications: Acids, bases, solvents[‡], water treatment chemicals, cleaners, plating solutions, kidney dialysis solutions, sanitary, diesel exhaust fluid (DEF)/AdBlue 



Construction Specifications

Pump Series	Construction Materials		Tube Dia. in (cm)	Max. Temp.*	
	Outer Tube	Internals		°F	°C
PFM	Polypro	316 SS, Polypro, FKM, PVDF	2 (5.1)	160	71
PFP	Polypro	Alloy 625, Polypro, FKM, PVDF		120	49
PFV*	PVDF	Alloy 625, FKM, PVDF		220	105
PFS	316SS	316SS, FKM, ETFE			

*PFV-72 = 115°F (46°C)

Tube Lengths

27" (69cm), 40" (102cm), 48" (122cm), 60" (152cm), 72" (183cm)

Performance Data

Pump Series	Hose Size	Maximum Flow**		Maximum Head**		Max. Specific Gravity	Max. Viscosity - cP	
		Electric gpm (lpm)	Air gpm (lpm)	Electric ft (m)	Air ft (m)		Electric	Air
PFP, PFM PFV, PFS [†]	1"	40 (151)	22 (83)	80 (24)	38 (11.6)	1.8	2,000	330

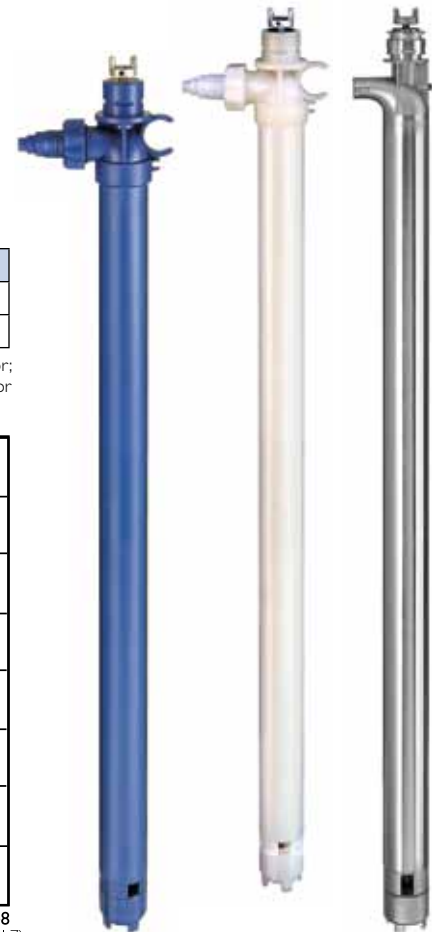
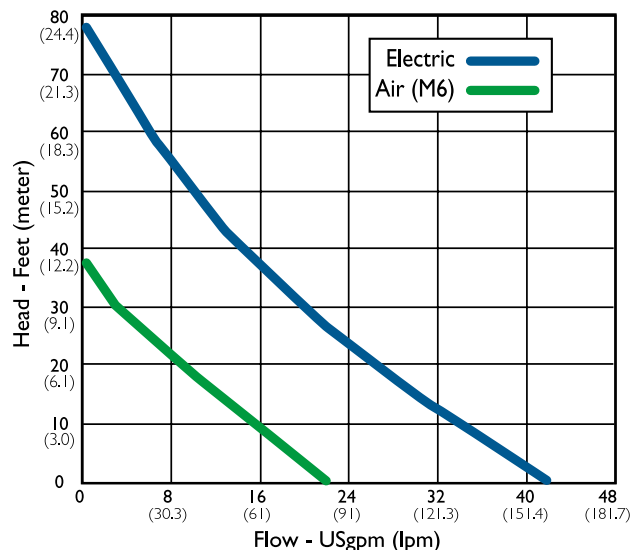
Viscosity Data

Viscosity (cP)	100	250	500	1,000	2,000
Max Flow gpm (lpm)	24 (91)	16 (61)	11 (42)	7 (26)	4 (15)
Max Head feet (meter)	52 (16)	51 (16)	48 (15)	45 (14)	28 (9)

Note: 100-500 cP results using M3/M5V motor;
500-2,000 cP results using M58/M59P motor

Motor Model

Pump	Uses Model
PF	M3V, M5V, M5V-US
	M3T, M5T
	M3X, M5X, M10X
	M58P, M59P
	M6, M6X



¹Pat. US D658, 274S; Pat. ZL 201130042124.3; OHIM Pat. 001839002-0003


[†]When pumping flammables or combustibles, use explosion proof electric or air drive motors on stainless steel tubes with static protection kit.

**All testing performed with water at 68°F (20°C). Actual performance can vary by +/- 10%. Actual performance will decrease with increased fluid viscosity and specific gravity.

EF Series¹ Pump Tubes

Sealless, Best Value

This pump provides an economical choice for light duty transfer. Ideal replacement for hand pumps.

Applications: Light acids and bases, solvents[†], plating solutions, sodium hypochlorite, cleaner coolants, diesel exhaust fluid (DEF)/AdBlue 



Construction Specifications

Pump Series	Construction Materials		Tube Dia. in (cm)	Max. Temp.	
	Outer Tube	Internals		°F	°C
EFP	Polypro	316SS, FKM, PTFE, PP	1-1/4 (3.2)	150	66
EFV	Pure PP/PVDF	Alloy 625, FKM, PTFE, ETFE, PP	1-5/16 (3.3)	160	71
EFS	316SS	316SS, FKM, PTFE, ETFE	1-1/4 (3.2)	212	100

Tube Lengths

16" (41cm), 27" (69cm), 40" (102cm), 48" (122cm), 54" (137 cm)

Performance Data

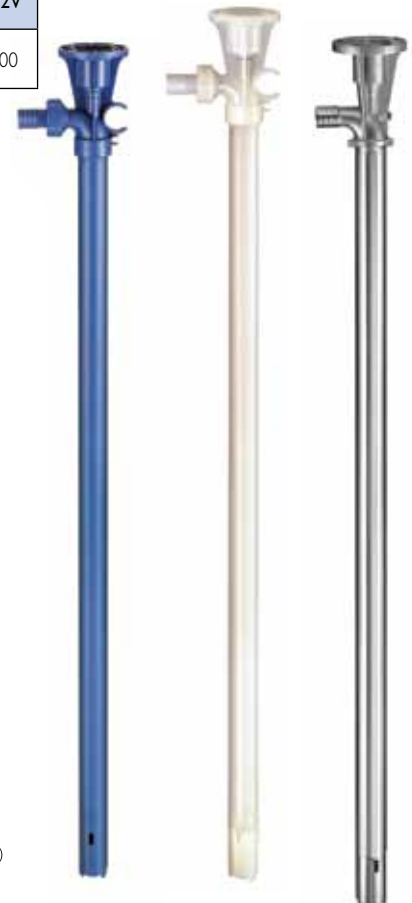
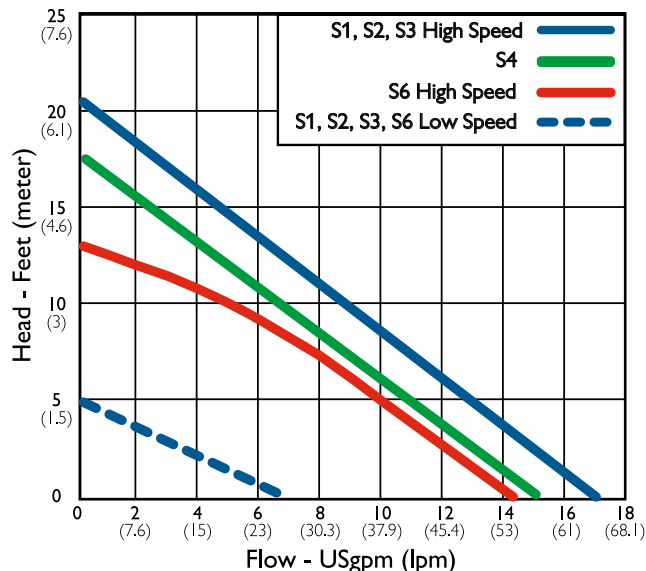
Pump Series	Hose Size	Maximum Flow* [‡]			Maximum Head* [‡]			Max. Specific Gravity [‡]	Maximum Viscosity - cP [‡]		
		Electric gpm (lpm)	Air gpm (lpm)	12V gpm (lpm)	Electric ft (m)	Air ft (m)	12V ft (m)		Electric	Air	12V
EFP, EFV, EFS	3/4"	17 (64.4)	15 (56.8)	14 (53.0)	20 (6.1)	17 (5.2)	13 (4.0)	1.6	300	300	100

Viscosity Data

Electric/Air Motor				12V Motor		
Viscosity (cP)	100	200	300	Viscosity (cP)	50	100
Max Flow gpm (lpm)	7 (26)	5 (19)	4 (14)	Max Flow gpm (lpm)	7 (26)	3 (11)
Max Head ft (m)	16 (5)	16 (5)	16 (5)	Max Head ft (m)	11 (3)	14 (4)

Motor Model

Pump	Uses Model
EFP	S1, S2, S3
EFV	S4
EFS	S6



¹Pat. US D658,273 S; Pat. US D657,849 S; Pat. ZL 201130042121.X; Pat. ZL 201130042107.X; OHIM Pat.001839002-0002; OHIM Pat.001839002-0001

[†]When pumping flammables or combustibles, use air drive motors on stainless steel tubes with static protection kit.

*All testing performed with water at 68°F (20°C). Actual performance can vary by +/- 10%. Actual performance will decrease with increased fluid viscosity and specific gravity.

[‡]Maximum specific gravity is dependent on fluid viscosity; maximum fluid viscosity is dependent upon specific gravity.




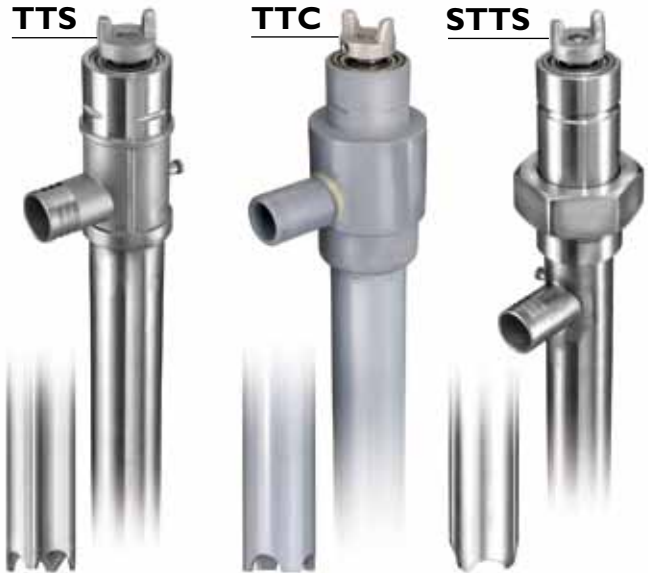
PUMP TUBE DATA

TT Series Pump Tubes

Sealed, Medium Viscosity/Flow

Sealed pump with PTFE screw-type lifting compressors. Ideal for liquids containing small particulate or solvents. Model STTS is sanitary construction.

Applications: Inks, paints, solvents[†], sodium hypochlorite, food products 



Construction Specifications

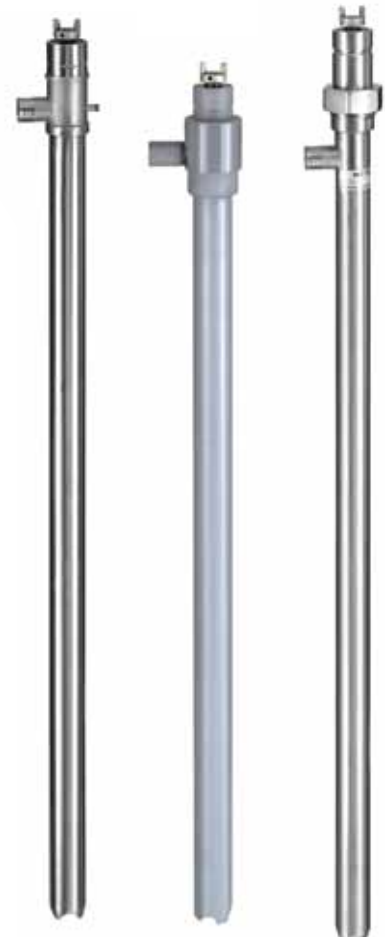
Pump Series	Construction Materials		Tube Dia. in (cm)	Max. Temp.	
	Outer Tube	Internals		°F	°C
TTS	316SS	316SS, PTFE	1-1/2 (3.8)	150	66
TTC	CPVC	Alloy 625, PTFE	1-5/8 (4.1)		
STTS	316SS	316SS, PTFE	1-1/2 (3.8)		

Performance Data

Pump Series	Hose Size	Maximum Flow*		Maximum Head*		Max. Specific Gravity	Max. Viscosity - cP	
		Electric gpm (lpm)	Air gpm (lpm)	Electric ft (m)	Air ft (m)		Electric	Air
TTS	1"	10 (38)	16 (61)	10 (3)	30 (9)	1.8	500	2,000
TTC								
STTS								

Tube Lengths

TTC, TTS - 27" (69cm), 40" (102cm), 48" (122cm)
STTS - 40" (102cm)



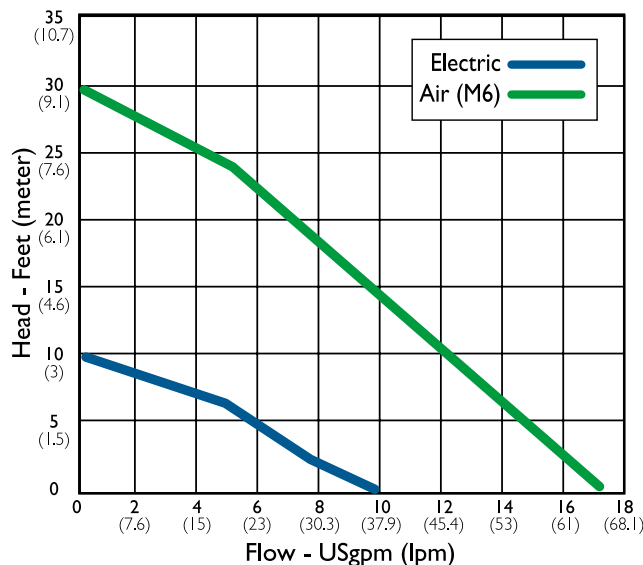
Viscosity Data

Viscosity (cP)	100	250	500	1,000	2,000
Max Flow gpm (lpm)	7 (26)	6 (23)	3 (11)	4 (15)	3 (11)
Max Head feet (meter)	25 (8)	35 (11)	48 (15)	60 (18)	28 (9)

Note: 100-500 cP results using M7T/M8T motor;
500-2,000 cP results using M6X motor

Motor Model

Pump	Uses Model
TTS	M7T, M8T
TTC	M7X
STTS	M6, M6X



[†]When pumping flammables or combustibles, use explosion proof electric or air drive motors on stainless steel tubes with static protection kit.

*All testing performed with water at 68°F (20°C). Actual performance can vary by +/- 10%. Actual performance will decrease with increased fluid viscosity and specific gravity.

BT/HVDP Pump Tubes

High Viscosity/ High Head

BT Series- High viscosity sealed design with PTFE screw-type lifting compressors for liquids up to 15,000 cP

HVDP Series- Progressive cavity, positive displacement, mechanically sealed pump for high viscosity liquids up to 20,000 cP (HR model) or 100,000 cP (LR model)

Applications: Oils, resins, solvents[†], waxes, adhesives, gear lube, glycerin, silicone, lotions, polymers, honey, juice concentrate, hair and bath gel, corn syrup, etc.



Construction Specifications

Pump Series	Construction Materials		Tube Dia. in (cm)	Max. Temp.	
	Outer Tube	Internals		°F	°C
BTS	316SS	PTFE, 316SS	2 (5.1)	200	93
HVDP	316SS	316SS, Buna N, FKM, PTFE	2 (5.1)	180	82

Motor Model

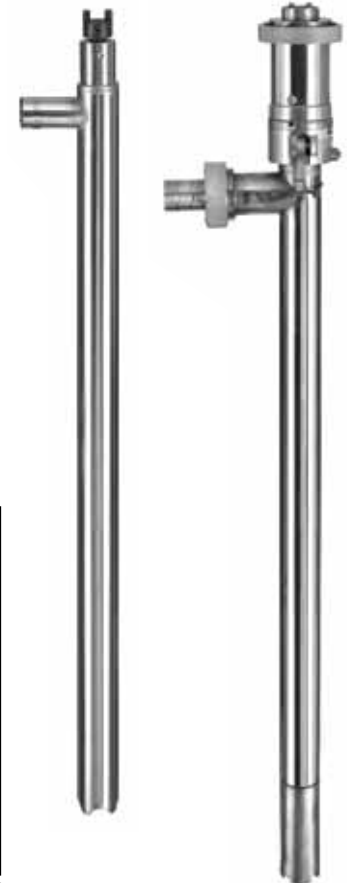
Pump	Uses Model
BTS	M15, M16, M17, M18, M19, M20
HVDP-HR	M58H, M59H
HVDP-LR	M60, M61, M62, M63, M64, M65, M66

Tube Lengths

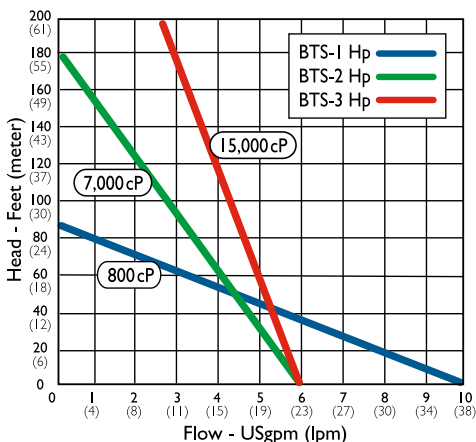
BTS: 40"(102cm)
HVDP: 27"(69cm), 40"(102cm), 48"(122cm)

Performance Data

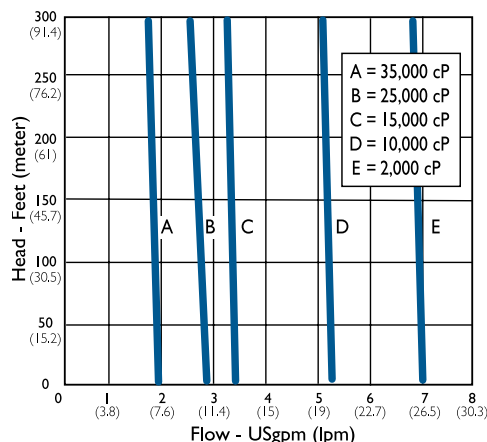
Pump Series	Hose Size	Maximum Flow*		Maximum Head*		Max. Specific Gravity	Max. Viscosity - cP	
		Electric gpm (lpm)	Air gpm (lpm)	Electric ft (m)	Air ft (m)		Electric	Air
BTS	1-1/2"	10 (38)	10 (38)	200 (61)	200 (61)	1.8	15,000	15,000
HVDP-HR	1-1/2", 2"	9 (32)	9 (32)	300 (91)	300 (91)	1.8	20,000	20,000
HVDP-LR	1-1/2", 2"	7 (27)	7 (27)	300 (91)	300 (91)	1.8	100,000	100,000



BTS Flow Data



HVDP Flow Data



[†]When pumping flammables or combustibles, use explosion proof electric or air drive motors on stainless steel tubes with static protection kit.
*Actual performance can vary by +/- 10%. Actual performance will decrease with increased fluid viscosity and specific gravity.



MOTOR DATA for Drum/Barrel Pumps



M3V, M5V, M5V-US, M3V-UK

S1, S2, S3, S6

M3T, M5T, M7T, M8T

M15, M16, M17

M58H, M59H, M58P, M59P

ODP (Open Drip Proof), Splashproof, IP24 Motors

Model	Description	Certification	Electrical Requirements	Input	Output	RPM	Maximum Viscosity cP	Pump Series
				W	W			
M3V	Quick connects to pump without tools. Down-draft cooling system and double wall housing. Continuous duty, variable speed. 12 ft. (3.5 m) cord with plug and integral circuit breaker included.	CSA	115VAC/50-60 Hz	650	400	3,500-10,000	500	PF
M5V		CE	230VAC/50-60 Hz	650	400	3,500-10,000	500	PF
M5V-US*		CE	230VAC/50-60 Hz	650	400	3,500-10,000	500	PF
M3V-UK		CE	115VAC/50-60 Hz	650	400	3,500-10,000	500	PF
S1	Ergonomic, lightweight design with downdraft cooling. Continuous duty, dual speed, double insulated. 12 ft. (3.5 m) cord with plug and manual reset circuit breaker included.	CSA	115VAC/60 Hz	230	110	8,000 / 14,000	300	EF
S2		CE	230VAC/50-60 Hz	230	110	8,000 / 14,000	300	EF
S3			115VAC/50-60 Hz	230	110	8,000 / 14,000	300	EF
S6**	Lightweight cordless design. Built-in rechargeable lithium ion battery, Dual speed. Overload protection. Charging jack w/ flip cover.	CE	12V (10.8V w/ work load)	150	100	8,000/12,000	100	EF

TEFC (Totally Enclosed Fan Cooled), IP54 Motors

Model	Description	Certification	Electrical Requirements	Input	Output	RPM	Maximum Viscosity cP	Pump Series
				W	W			
M3T	Molded plastic housing features integral handle. Continuous duty. A 12 ft. (3.5 m) cord with plug and circuit breaker with manual reset are provided.	CSA	115VAC/50-60 Hz	640	400	10,000	500	PF
M5T		CE	230VAC/50-60 Hz	640	400	10,000	500	PF
M7T		CSA	115VAC/50-60 Hz	500	180	2,850/3,450	500	TT
M8T		CE	230VAC/50-60 Hz	500	180	2,850/3,450	500	TT
M15	Continuous duty. A 12 ft. (3.5 m) cord is provided.	***	230/460V/60 Hz	†	0.75 kW	3,450	800	BT
M16			230/460V/60 Hz	†	1.5 kW	1,725	7,000	BT
M17			230/460V/60 Hz	†	2.2 kW	1,725	15,000	BT
M58H	Molded plastic housing features integral handle. Continuous duty, variable speed. 12 ft. (3.5 m) cord with plug and circuit breaker with manual reset is provided.		115VAC/50-60 Hz	1000	800	5,000-10,000	20,000	HVDP
M59H			230VAC/50-60 Hz	1000	800	5,000-10,000	20,000	HVDP
M58P			115VAC/50-60 Hz	1000	800	5,000-10,000	2,000	PF
M59P			230VAC/50-60 Hz	1000	800	5,000-10,000	2,000	PF

*Suitable for 230V, 60 Hz. Includes a NEMA 6-15 plug.

**Patent Pending

***Carries independent testing laboratory approval.

† Input power for induction motors will vary by manufacturer.

Note: Maximum viscosity can vary by pump series.



MOTOR DATA for Drum/Barrel Pumps



M3X, M5X, M7X, M10X

M6, M6X

M18, M19, M20

M65, M66

S4

Explosion Proof Motors

Model	Description	Certification	Electrical Requirements	Input	Output	RPM	Maximum Viscosity cP	Pump Series
				W	W			
M3X	Explosion proof design suitable for use in hazardous areas and ideal for applications with flammable liquids. The TEFC housing protects the motor internals from dust, corrosive vapors and water splashes. A 12ft. (3.5m) cord and internal circuit breaker are provided. Continuous duty rated.	CSA	115VAC/50-60 Hz	230	75	5,000	10	PF
M5X*		CE	230VAC/50-60 Hz	230	75	5,000	10	PF
M7X		CSA	115VAC/50-60 Hz	500	180	2,850-3,450	400	TT
M10X		CE/ATEX Ex II 2G Ex IIA T4	230VAC/50-60 Hz	640	400	10,000	500	PF

Air Motors **

Model	Description	Certification	Air Requirements	Output	RPM	Maximum Viscosity cP	Pump Series
				W			
M6/M6A	Lightweight, easy to handle yet powerful. Operates from customer-supplied compressed air source. Variable speed via supplied control valve. Motors are provided with muffler and control valve.	CE/ATEX Ex II 5GDc + ICTa+40C†	80-100 psi @ 15-32 cfm	370	300-9,000	1,500†	PF,TT
M6X/M6XA		CE/ATEX Ex II 5GDc + ICTa+40C†	80-100 psi @ 15-32 cfm	560	300-6,000	2,000†	PF,TT
M18		CE	100 psi @ 40-70 cfm	800	300-3,000	800	BT
M19			100 psi @ 80-120 cfm	1500	300-3,000	7,000	BT
M20			100 psi @ 120-170 cfm	2300	300-2,500	15,000	BT
M65		CE	100 psi @ 25 cfm	560	300-3,000	15,000	HVDP
M66			100 psi @ 70 cfm	1000	300-3,000	100,000	HVDP
S4		CE	40 psi @ 27 cfm	370	300 - 11,000	300	EF

*Motor suitable for hazardous areas that do not require independent certification.

** An air motor is a non-electrical device which means the possibility of explosion from igniting flammables or combustibles is reduced. Air motor performance will depend upon user's compressor and system setup.

‡M6A/M6XA motor models only are ATEX certified. M6/M6X models are CE certified.

†Maximum viscosity for PF Series is 330 cP.

Note: Maximum viscosity can vary by pump series.

Accessories

Flow Meters

- Dispense precise amount of fluids from containers.
- Handles chemicals and corrosive liquids.
- Large LCD display in GPM or LPM, 20 cP maximum +/-1% accuracy and repeatability.
- All models are factory calibrated.
- Some models may be field calibrated.
- Batch control versions available.
- Corrosion resistant polypropylene or PVDF.
- Engineered connections for fast assembly to PFM, PFP and PFV drum pumps.



Discharge Tubing

Flexible tubing connects to the pump discharge. Available in PVC, reinforced PVC and special EPDM for Diesel Exhaust Fluid applications.



Strainers

Strainers attach to pump tubes preventing foreign objects from entering the pump.



Nozzles

Nozzles provide a convenient way to control liquid flow. Available in polypropylene, aluminum and stainless steel.



Filter/ Lubricator Assembly

Conditions compressed air by removing free moisture and solids. Also lubricates the air for longer air motor life.



Static Protection Kit

Increases safety when transferring flammable or combustible liquids. Kit includes cross-linked polyethylene grounded hose, ground wire and clamps.



Air Hose

15 feet (4.6m) air hose assembly sold separately.



Drum Adapters

Secures the pump tube in the barrel's bung opening. Fits standard 2" IPS bung opening. Available in polypropylene, galvanized or stainless steel.



Wall Mount Bracket

Allows pump to be stored in an upright position



Chargers

Double insulated with LED charge status indicator for recharging S6 battery motor. Available in 115V with US plug, 230V with Euro plug or 12V for use in most vehicle outlets.

