Air Operated Double Diaphragm Pumps TC-X

TC-X500-M Metallic Mechanical Coil Spring Air Spool

2” Heavy Duty Metallic Diaphragm Pump Data Sheet

Max Flow Rate: 730 L/min. (Rubber)
Liquid Connections: 2” Flanged Centre Ports / (Female Threaded).
Max Slurry Size: 8.0mm.
Max Suction Lift: PTFE Dry: 3.0m Rubber Dry: 5.5m. Wet (Primed): 8.0m.
Max Discharge Pressure: 0.85 MPa (Rubber)
Check Valve Configuration: Ball Valves.
Pump Wetted Material Options: Aluminium, Stainless Steel.
Diaphragm Options: PTFE, CR, NBR, TPEE, TPO, EPDM, FKM.
Air Motor Material: Aluminium.
Description: Heavy Duty 2” Metallic AODD Pumps available in Al, SUS. Mechanical Coil Spring Air Spool. Aluminium Air Motor. Ball Check Valves. Large Range of Standard & Special Diaphragm Options. External Plastic Silencer (×2).

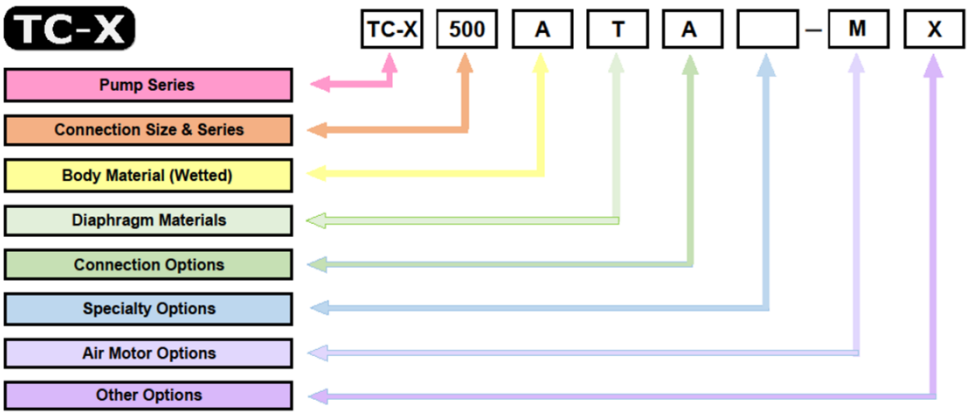
TC-X500A□J/A-M
2” Aluminium Pump
730 L/min.

Pump features: *Powerful 2” metallic AODD Pumps specifically designed for very tough & demanding liquid transfer applications. Heavy duty mechanically actuated shifting mechanism with non-centering coil spring assisted Air Spools. Will resist stalling and freezing in all conditions. Able to achieve very high flow rates & high discharge heads reliability and efficiently. Ball Check Valves with large solids handling ability. Compact size, drop-in dimensions & footprint. Fully bolted body, heavy weight construction & wide sturdy steel base. Double external exhaust ports. Oil & grease lubrication free, with zero exhaust air emissions for safe & environmentally friendly operation. Easily maintainable with modular replaceable wear parts & outside accessible Air Spools. Fully torqued, leak and operation tested prior to shipment. Designed and manufactured in Japan.*

500 HD Metallic Pump Specifications		
Pump Model / Material	**A□ S□**	**AT ST**
Max Flow Rate	730 L/min [192.9 GPM]	500 L/min [132.1 GPM]
Max Solids Size	8.0 mm	
Max Discharge Pressure	0.85 MPa [125 psi]	0.7 MPa [100 psi]
Supply Air Pressure Range	0.1 – 0.85 MPa [14 - 125 psi]	0.15 – 0.7 MPa [22 - 100 psi]
Max Suction Lift	PTFE Dry: 3.0 meters. Rubber Dry: 5.5 meters. Wet (Primed): 8.0 meters.	
Max Air Consumption	6000 L/min (ANR) [211.9 SCFM]	5000 L/min (ANR) [176.6 SCFM]
Max Discharge Volume Per Cycle	3500 mL	2000 mL
Ambient Temperature Range	0 – 70°C [32 – 158°F]	
Liquid Temperature Range	NBR/CR 0–70°C [32–158°F] TPEE/EPDM 0–80°C [32–176°F] FKM/TPO/PTFE 0–100°C [32–212°F]	
Connections: Suction & Discharge	2” Flanged Centre Ports / (Female Threaded)	

Note: *Factors affecting a pumps stated liquid flow rate, suction lift & solids handling capabilities include but are not limited to; pump size, diaphragm, ball valve & ball seat, type & materials of construction, air inlet pressure & air flow capability, liquid viscosity, specific gravity, slurry content, ambient & liquid temperature, liquid inlet & liquid outlet width, piping type, piping length & overall piping configuration. A minimum supply air pressure of 14psi (0.1 MPa) is required to operate the pump. If the supply pressure is less than 14psi (0.1 MPa), the pump may not operate properly. Oil & Grease Lubrication is not required under normal operating conditions. All 500-M Series Diaphragm Pumps are shipped complete with a Heavy Duty Steel Base, Rubber Feet, Air Inlet Shutoff Valve & 2 Plastic External Exhaust as Standard Accessories.*

Nomenclature

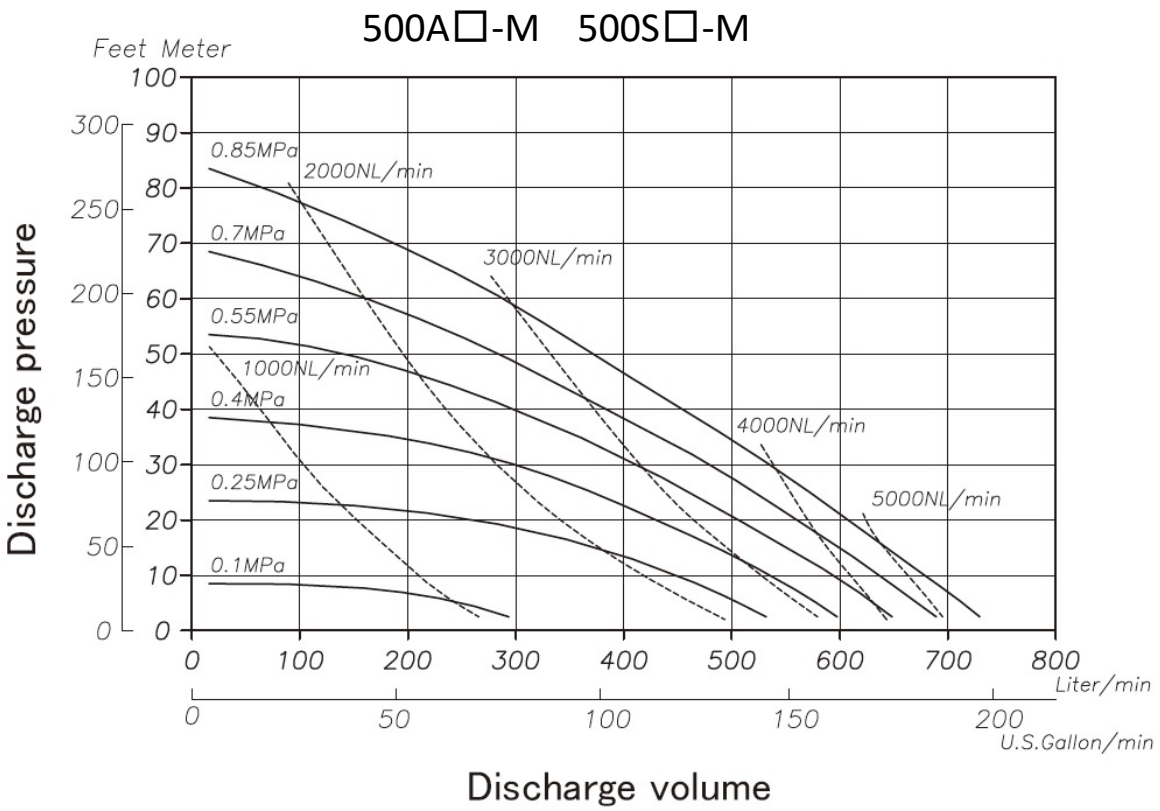


TC-X500S□J/A-M
2” Flanged
SUS AODD Pump.

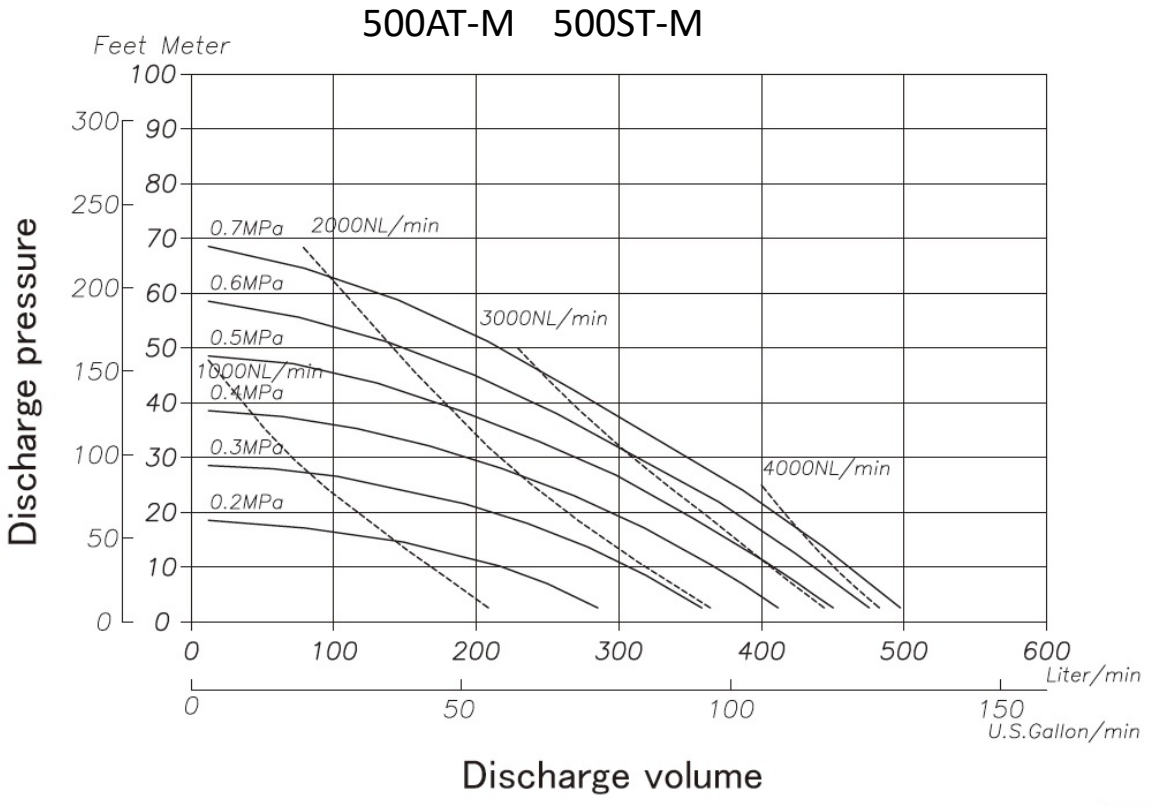
Made In Japan

Pump Performance Curves

Rubber Diaphragm Curves



PTFE Diaphragm Curves



Made In Japan

Wetted Materials Of Construction

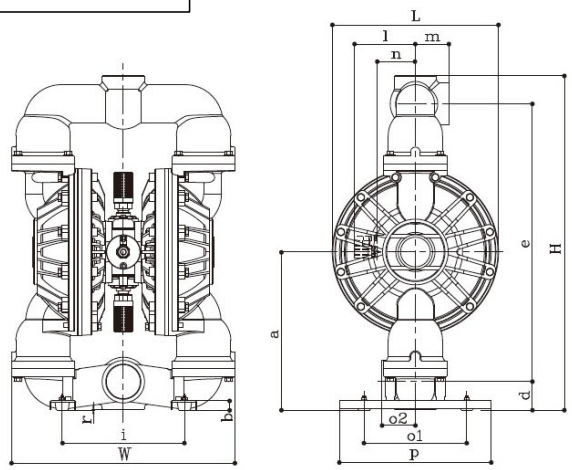
MODEL	500AC ☐	500AN ☐	500AE ☐	500AV ☐	500AT ☐	500AH ☐	500AS ☐	500SC ☐	500SN ☐	500SE ☐	500SV ☐	500ST ☐	500SH ☐	500SS ☐
Pump Wetted Parts	ADC12・AC4C							SCS14						
Diaphragm	CR	NBR	EPDM	FKM	PTFE	TPEE	TPO	CR	NBR	EPDM	FKM	PTFE	TPEE	TPO
Ball Valve	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM
Valve Seat	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM
Center Disk	A5056							SUS316						
Weight	A ☐ [A ☐ N] : 44.5 kg [98.1 lbs] A ☐ J [A ☐ A] : 46.5 kg [102.5 lbs]							S ☐ [S ☐ N] : 68.5 kg [151.0 lbs] S ☐ J [S ☐ A] : 73.5 kg [162.0 lbs]						

MODEL	500FC ☐	500FN ☐	500FE ☐	500FV ☐	500FT ☐	500FH ☐	500FS ☐
Pump Wetted Parts	FC250						
Diaphragm	CR	NBR	EPDM	FKM	PTFE	TPEE	TPO
Ball Valve	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM
Valve Seat	CR	NBR	EPDM	FKM	PTFE	NBR	EPDM
Center Disk	SS400						
Weight	F ☐ [F ☐ N] : 68.5 kg [151.0 lbs] F ☐ J [F ☐ A] : 73.5 kg [162.0 lbs]						

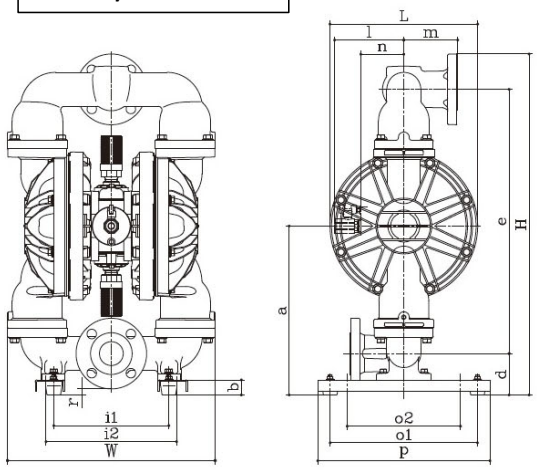
Dimensional Drawings

MODEL	H	W	L	a	b	d	e	i (i1)	i2	l	m	n	o1	o2	p	r	AIR INLET	AIR EXH	LIQUID IN/OUT
500A ☐ [500A ☐ N]	683 [26.89]	458 [18.03]	326 [12.83]	330 [12.99]	23 [0.91]	49 [1.93]	582 [22.91]	254 [10.00]		153 [6.02]	58 [2.28]	95 [3.74]	325 [12.80]	58 [2.28]	380 [14.96]	5 [0.20]	Rc3/4 [NPT3/4]	Rc3/4 [NPT3/4]	Rc2 [NPT2]
500S ☐ [500S ☐ N] 500F ☐ [500F ☐ N]	681 [26.81]	456 [17.95]	326 [12.83]	330 [12.99]	23 [0.91]	49 [1.93]	582 [22.91]	254 [10.00]		153 [6.02]	58 [2.28]	95 [3.74]	325 [12.80]	58 [2.28]	380 [14.96]	6 [0.24]			
500A ☐ J [500A ☐ A]	751 [29.57]	458 [18.03]	326 [12.83]	372 [14.65]	33 [1.30]	91 [3.58]	582 [22.91]	254 [10.00]	288 [11.34]	153 [6.02]	119 [4.69]	95 [3.74]	325 [12.80]	250 [9.84]	380 [14.96]	13 [0.51]			Equivalent to JIS Flange 10K50A
500S ☐ J [500S ☐ A] 500F ☐ J [500F ☐ A]	751 [29.57]	456 [17.95]	326 [12.83]	372 [14.65]	33 [1.30]	91 [3.58]	582 [22.91]	254 [10.00]	288 [11.34]	153 [6.02]	119 [4.69]	95 [3.74]	325 [12.80]	250 [9.84]	380 [14.96]	13 [0.51]			

500 A☐-M S☐-M



500 A☐J/A-M S☐J-A-M



Heavy Duty Mechanical Coil Spring Air Spool.

Mechanically actuated shifting mechanism. Spring assisted non-centering Air Spools. Resists stalling and freezing in all conditions. Outside accessible. Fully modular & replaceable wear components. State of the Art, long life materials of construction. Oil & grease lubrication free design.

TC-X

Typical Pumping Applications.

- *Pumping Against Very High Back Pressures.*
- *Operating with Very High Air Inlet Pressures.*
- *Frequent or Extended Dead Heading.*
- *Operating at Very Slow Switching Speeds.*
- *Operating with Very Low Air Inlet Pressures.*
- *Pumping Continuously for Very Long Periods.*
- *Frequent Start Stop Applications.*
- *Operating with Very Long Discharge Lines.*
- *Where Pump Icing / Freezing is a Common Occurrence.*
- *Where Air Consumption Efficiency is a Critical Factor.*

AODD Pump Capabilities.

Mechanical Coil Spring Spool

Self Priming.	Variable Discharge Pressures.	Inherently Safe Design.
Run Dry.	Transfer Liquid Slurries.	Portable & Easy to Use.
Run up to Dead Head.	Transfer Large Sized Solids.	Transfer Viscous Fluids.
Variable Flow Rates.	Handle Abrasives.	Frequent Start Stop Operation.
Shear Sensitivity.	Transfer Chemicals.	Powered by Compressed Air.

ATEX Compliant
II 2GD c T5

JQA-QMA14279

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For more information about TC-X Pumps please contact: sales@yts-pump.com