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FLUID & AIR HANDLING
TECHNOLOGIES

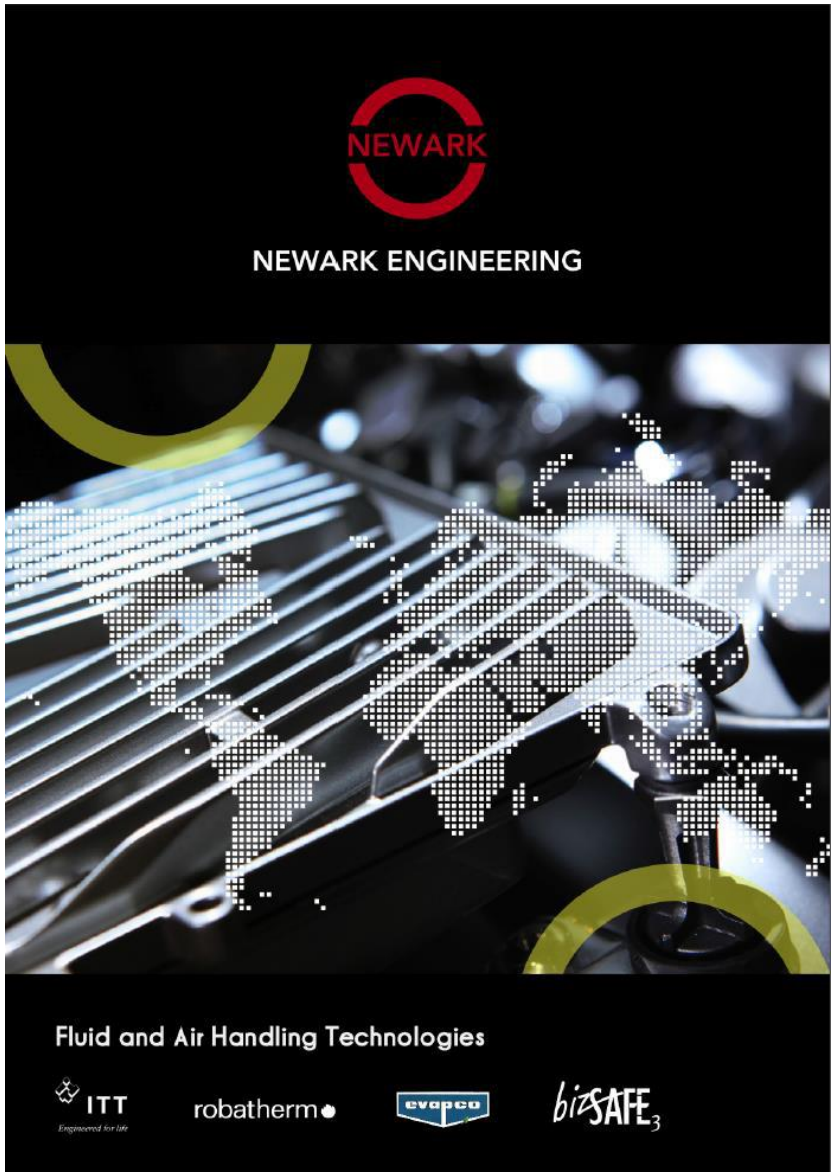
NEWARK ENGINEERING PTE LTD



evapco

ARMSTRONG

robatherm
the air handling company



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Since 1992…

25 years of experience in Fluid & Air Handling…

evapco

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ARMSTRONG VERTICAL IN-LINE PUMP



- First VIL developed in 1921 by United Pumps for use in the oil industry
- VIL pumps were first introduced into HVAC industry by Armstrong
- (max up to 1,000 L/s, 150m)
- Vertical in lines are not new, they have been proven and used in many buildings throughout the world.



CityCentre
Las Vegas



Canary Wharf
London



LG Towers
Beijing



RBC Dexia Tower
Toronto

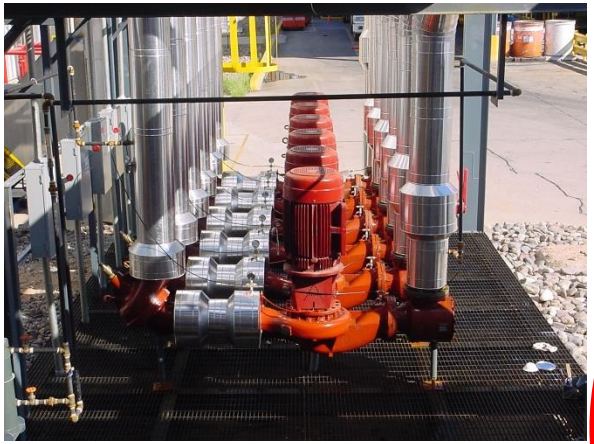
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ARMSTRONG VERTICAL IN-LINE PUMP

1. REDUCE FLOOR SPACE





2. EASE OF INSTALLATION





3. RELIABILITY



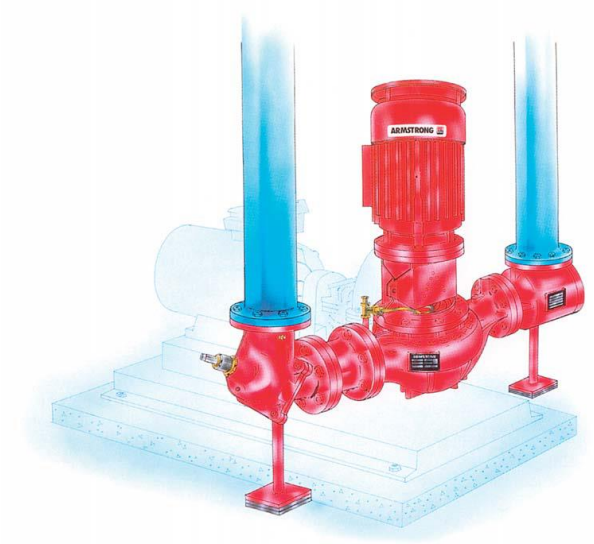
4. MAINTENANCE FRIENDLY

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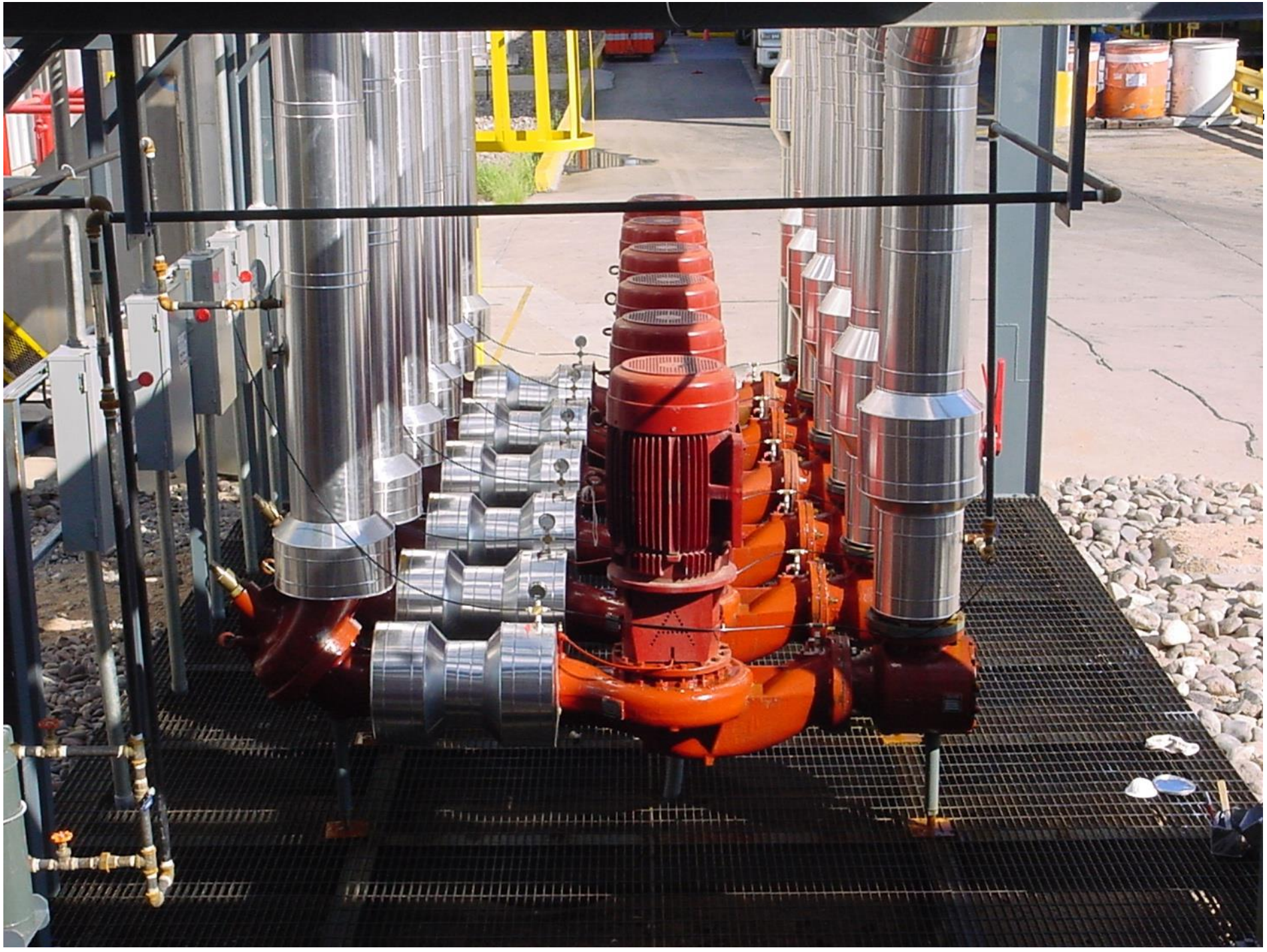
REDUCE FLOOR SPACE





	ARMSTRONG VIL	HORIZONTAL
BASEPLATE	X	✓
CONCRETE BASE	X	✓
SPRING ISOLATOR	X	✓
FLEXIBLE JOINT	X	✓

- Reduce Space & Cost



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EASE OF INSTALLATION

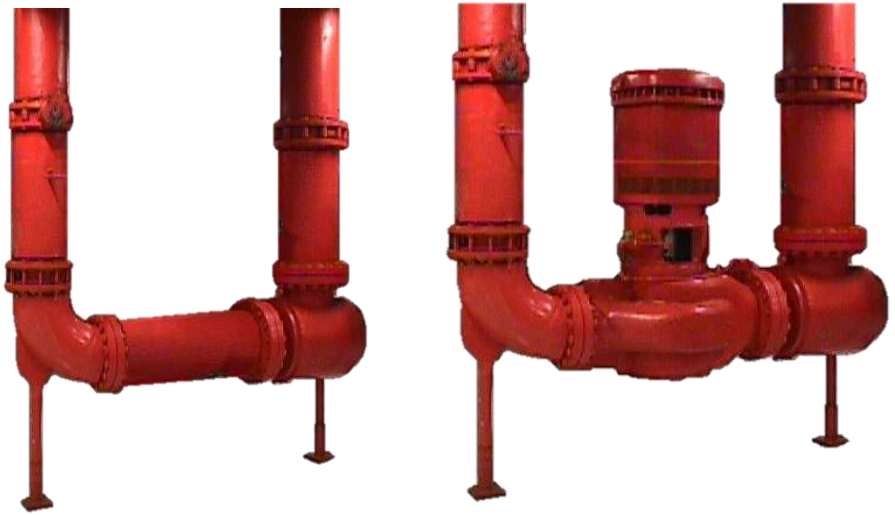


Armstrong Vertical In Line Pump

Size 16x16x19 350HP

being dropped into place between the flanges. Only one man is required to do the installation

(Enwave Project Toronto)



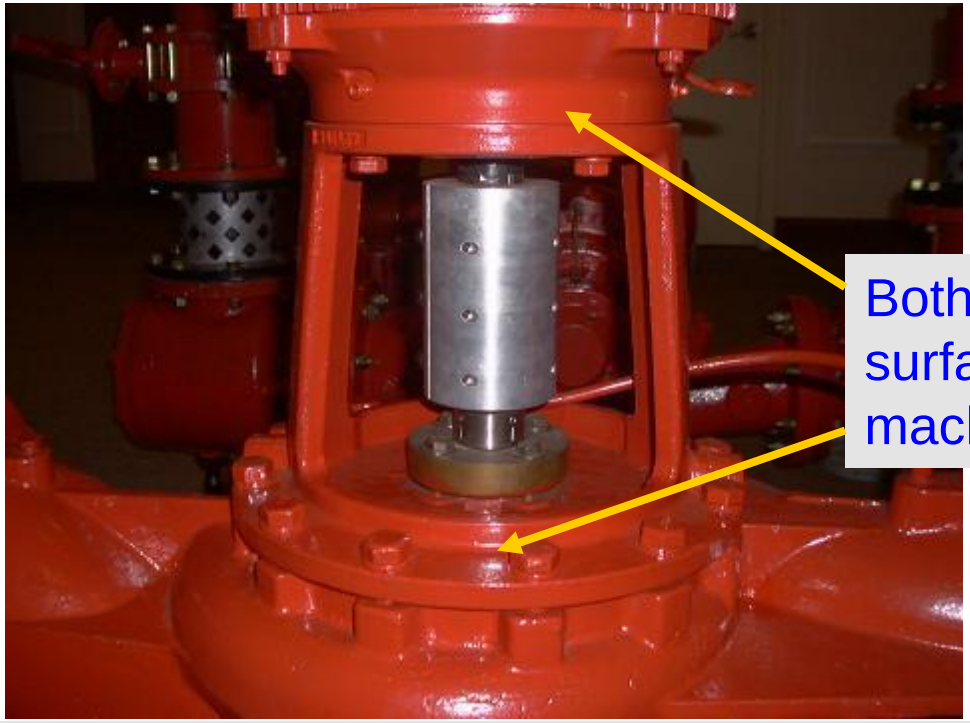
INSTALL AS EASY AS A GATE VALVE

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RELIABILITY

NO COUPLING ALIGNMENT FOR ARMSTRONG VERICAL IN-LINE PUMPS



- Rigid Couplings and do not require field alignment
- No bases to be grouted.
- Pump and motor are always in 100% alignment - Vibration free!

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RELIABILITY

ALIGNMENT PROBLEM IN HORIZONTAL PUMPS



- Non Machine surface requires to perform alignment but would never perfect.
- Vibration of pump set would affect the alignment gradually
- Force bending of coupling will happen, causing leakage & bearing/seal failure.







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MAINTENANCE FRIENDLY

SPLIT COUPLED – SEAL MAINTENANCE WITHOUT DISTURBING PUMP OR MOTOR CONNECTION



1) Split coupling with outside seal. Axially split coupling shown with coupling guard removed. Coupling bolts are still in place. Rotating element of seal is seen below the coupling, above gland plate.



2) Remove the coupling bolts. The coupling halves (with drive and annular positioning keys) are taken from motor and pump shafts. Loosen set screws on seal rotating element and slide from pump shaft. (For inside seal see step (3))



3) Disconnect seal flush line and remove gland plate bolts. The gland plate and seal seat may ıen be taken out between the space in the shafts. With inside seal the complete seal is removed following the gland plate.



4) New seal may now be installed. Reverse the procedure: Install new seal, replace gland plate, replace coupling and restart pump. Rigid coupling retains factory alignment.

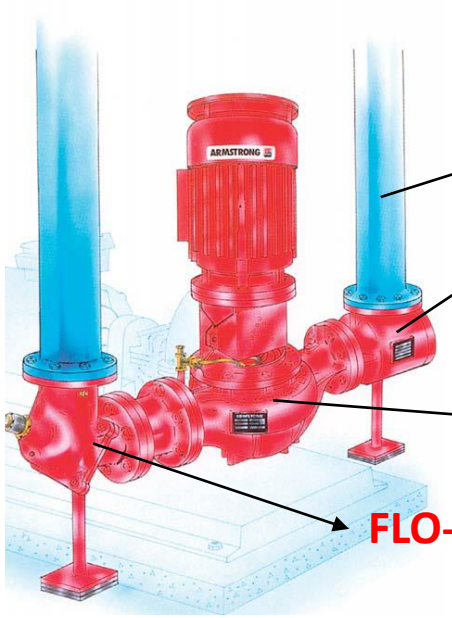
DONE BY ONE PERSON

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ARMSTRONG VERTICAL IN-LINE PACKAGE



BY PIPING CONTRACTOR

SUCTION GUIDE

VERTICAL IN-LINE PUMPS

FLO-TREX VALVE





REPLACE:

1. 90° ELBOW
2. IN-LINE STRAINER
3. REDUCER
4. GUIDE VANES

SUCTION GUIDE



REPLACE:

1. 90° ELBOW
2. SHUT-OFF VALVE
3. CHECK VALVE
4. THROTTLING VALVE

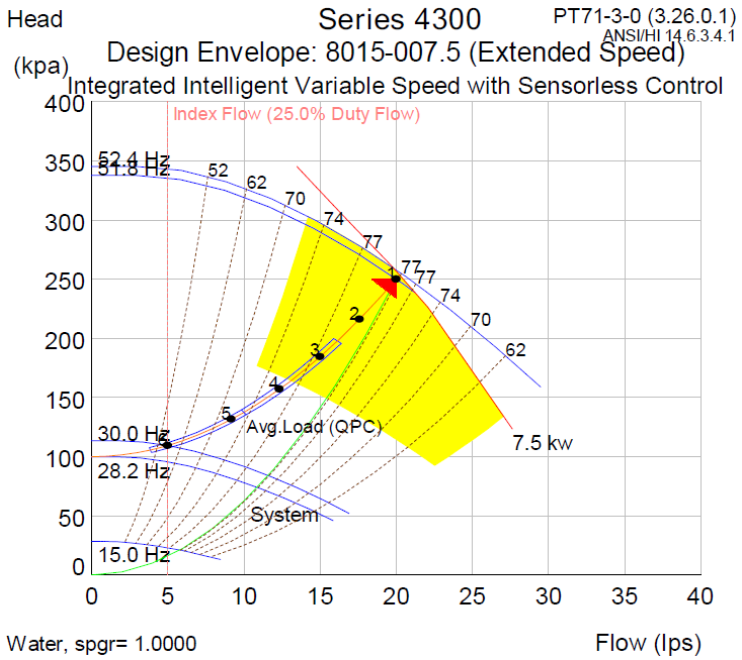
FLO-TREX VALVE

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ARMSTRONG VERICAL IN-LINE DESIGN ENVELOPE





- **INTEGRATED VSD**
- **SAVE WIRING & INSTALLATION COST**
- **SPACE SAVING**

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THANK YOU

