

LOADING ARM SYSTEMS AND COMPONENTS



Catalogue 65



Ritepro Corporation
Montreal, Canada



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Ritepro Corporation is a world leader in the design and manufacturing of fluid handling equipment. From the standard 900 series loading arm to the superior 400 and 500 series, all Rite loading arms are designed with the end user in mind. Spring balance units ensure all loading arms move freely and return to their park position without excessive lifting or forcing by the operator.

State of the art computer systems are used in the design and analysis of our loading arms. Numerical Controlled equipment is used to machine components to precise dimensions. All loading arms are assembled, balanced and hydrostatically tested in the factory to ensure trouble free installation, start-up and use.

The loading arms shown in this catalogue are "standard" models with "standard" dimensions. Each application is different and loading arm configurations and dimensions need to be based on the actual installation. Each model is readily adaptable to suit most installations. Accessories can be added to make operation of the arms easier and safer.

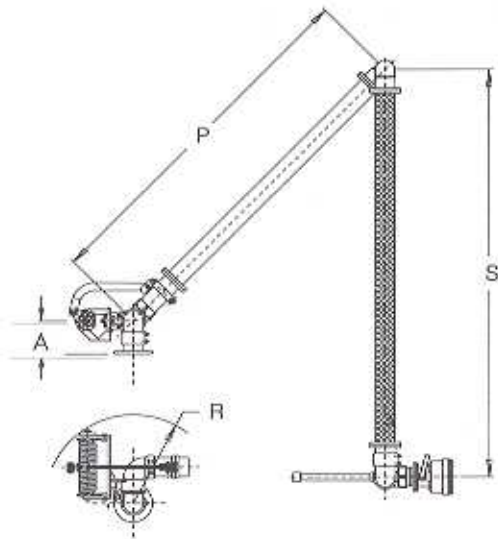
Standard materials of construction include ductile iron for swivels and steel for arms. Other materials including aluminium and stainless steel are available for most components. Consult factory for specific details for your application.

Although most of the loading arms are shown with threaded connections, flanged or butt-weld connections are available. Flanged connections reduce maintenance time as swivels are readily dismantled and, when necessary, the seals replaced.

Floating Suction assemblies are custom made to meet the individual requirements of each installation. Various layouts, components and materials of construction are used to meet individual applications.

Our Research and Development department is constantly searching for new and innovative ways to solve customer application problems involving loading arms and floating suction units.

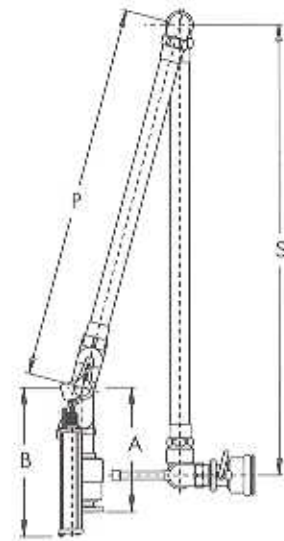
Contact our Montreal head office for solutions to your fluid handling needs.



E1173 Bottom Loader

Model E1173 Hose Loader features the E298 Torsion Spring Balance Unit for easy manoeuvring and positioning. With 360° rotation, both sides of the island can be serviced. This unit can be used as a vapour recovery arm in areas where it is required.

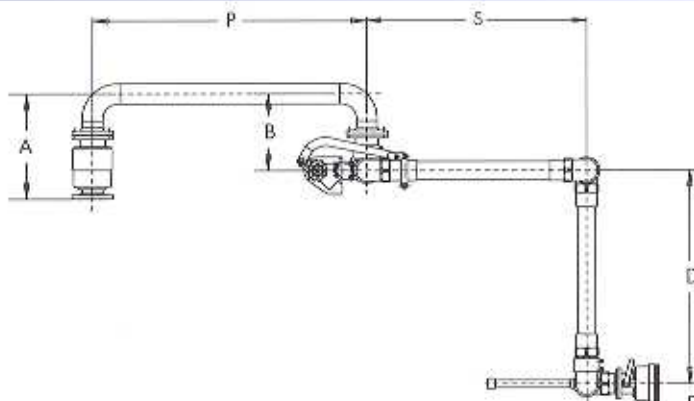
Size	A		P		S		R	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2"	6.50	165	60	1524	72	1829	19.0	483
2.5"	7.13	181	60	1524	72	1829	20.0	508
3"	7.38	187	60	1524	72	1829	20.0	508
4"	7.94	202	60	1524	72	1829	21.5	546



E254 Bottom Loader

Model E254 long range bottom loader includes the E857 Riser Swivel Joint and the E853 Compression Spring Balance Unit. This unit can be built for heavy duty service and reaches in excess of 17 feet. The 360° rotation allows filling on both sides of the island and the near vertical park position allows a more compact installation.

Size	A		B		P		S	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
3"	24.5	622	32.0	813	88	2235	96	2438
4"	26.5	673	32.0	813	80	2032	96	2438

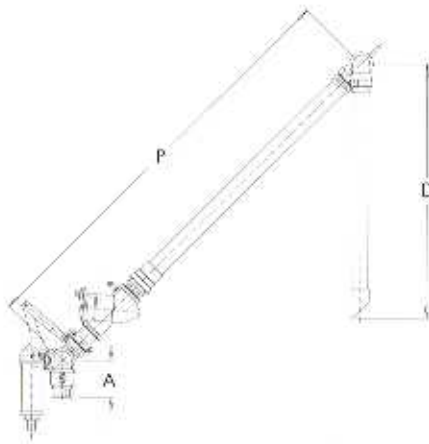


E260 Bottom Loader

This long range, low profile, model E260 boom type bottom loader features the heavy duty E857 Riser Swivel Joint and the E298 Torsion Spring Balance unit. Six swivel planes along with 360° of rotation gives this unit the flexibility to make tight connections and to service both sides of the island.

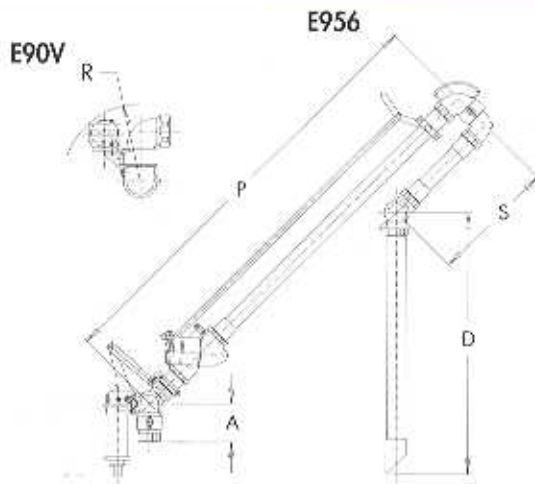
Size	A		B		P		S		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
3"	21.25	540	14.63	372	60	1524	48	1219	120	3048
4"	23.00	584	16.94	430	60	1524	48	1219	120	3048

E901 Sliding Sleeve Loader



Model E901 features the E647 Telescopic Sliding Sleeve Assembly which allows the loading arm to reach variable distances from loading rack to truck or tank car. The E90V compression spring balance provides easy vertical movement for the loading arm. Options for this model include a flanged inlet and remote control lever to activate the E150 deadman loading valve.

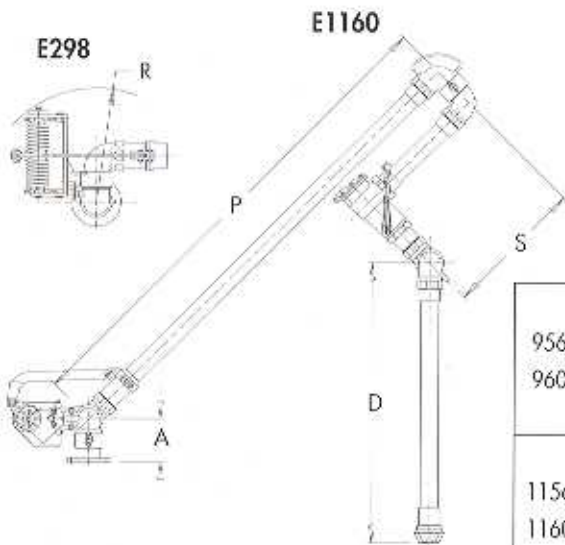
Size	A		P (Closed)		P (Extended)		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2"	6.50	165	77	1956	117	2972	60	1524
2.5"	7.13	181	83	2108	123	3124	60	1524
3"	7.38	187	85	2159	125	3175	60	1524
4"	7.94	202	83	2108	121	3073	60	1524



E956, E960, E1156, E1160 Pantograph Loaders

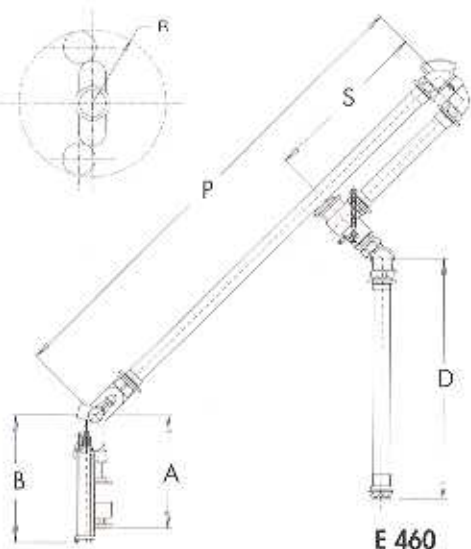
Models E956 and E1156 are **dry line** pantograph style loaders. Model E956 uses the E90V compression spring balance unit. The E1156 uses the E298 torsion spring balance which allows longer arms and therefore gives the E1156 an extended reach. The secondary arm facilitates the loading of tank cars and trucks which are misaligned.

Models E960 and E1160 are **wet line** pantograph style loaders. As above, the difference is in the spring balance assembly. The loading valve is located at the end of the secondary arm, thus giving the operator control at the point of filling. With the valve located at the end of the arm there is less to drain when the filling is complete.

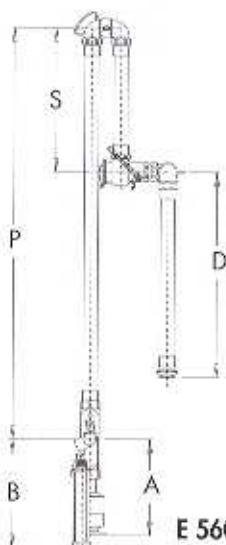


Size	A		P		S		D		R		
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
956	2"	6.50	165	84	2134	24	610	60	1524	11.50	292
	2.5"	7.13	181	84	2134	24	610	60	1524	12.00	305
960	3"	7.38	187	84	2134	24	610	60	1524	12.00	305
	4"	7.94	202	84	2134	24	610	60	1524	13.00	330
1156	2"	6.50	165	108	2743	36	914	60	1524	19.00	483
	2.5"	7.13	181	108	2743	36	914	60	1524	20.00	508
1160	3"	7.38	187	108	2743	36	914	60	1524	20.00	508
	4"	7.94	202	108	2743	36	914	60	1524	21.50	546

E460, E560 Long Range Pantograph Loaders



E 460



E 560

The models E460 and E560 are the superior long range, **wet line** pantograph loaders. The difference between these two models is that the E560 parks vertically so a smaller clearance radius is needed to turn the arm 360°. Both units feature heavy duty swivels, the E857 and E856. Seals in both swivels are accessible and field replaceable, without dismantling the loading arm. The E853 compression spring assembly, in combination with a hydraulic balance, provides ease of movement to the operator when in use and returns the arm smoothly to the park position. The deadman valve located at the end of the secondary arm provides the operator with direct control over the filling process.

Both of these units can be **field converted** into bottom loaders model E254 if required. These arms are ideal for new installations where bottom loaders will be required in the future.

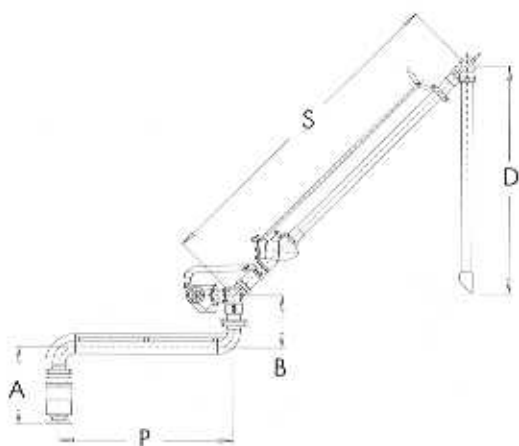
The conversion procedure is as follows:

- 1) Remove all components from the outlet up to and including the secondary arm.
- 2) Turn the swivel at the end of the primary arm 90°.
- 3) Install the new secondary tube.
- 4) Attach the new E85X swivel.
- 5) Install a new dry break coupling.

This would provide a bottom loader, that in certain cases, can be extended to more than 17 feet in the loading position.

Size	A		B		P		S		D		R	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
3"	24.5	622	32.0	813	120	3048	42	1067	60	1524	11.25	286
4"	26.5	673	32.0	813	120	3048	42	1067	60	1524	12.50	318

E1163 Long Range Top Loader



This long range, extended boom style loader is ideal to solve the problem of loading multiple compartments in tank trucks or rail cars. For a longer reach, the boom configuration can be modified and additional supports provided to suit most installations. The E857 and E85 swivel joints provide ease of movement. The E298 spring balance allows the operator to raise and lower the arm with little effort.

Size	A		B		P		S		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
3"	21.25	540	14.63	372	60	1524	108	2743	60	1524
4"	23.00	584	16.94	430	60	1524	108	2743	60	1524

TO SUIT YOUR NEEDS



Model E254LF

Long range bottom loader with flanged connections.



Model E1155

Constructed from stainless steel with chemical series swivels, this model is used in chemical and food industries.



Model E460

This E460 is a popular, long range, heavy duty, wet line top loader.



Model E468

Top filling, wet line, long range loader for use where vapour recovery is required.



Model E560LF

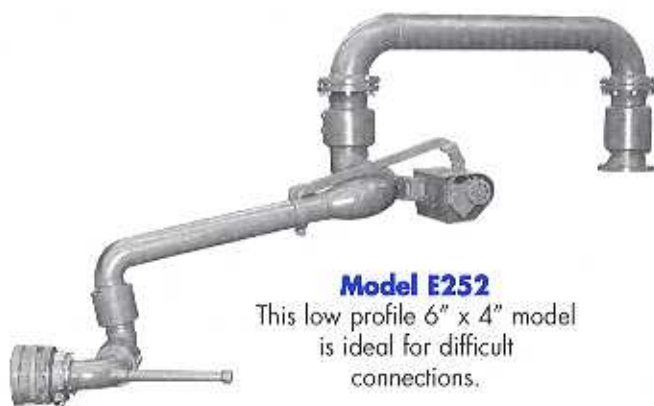
Wet line top loader shown in its vertical park position with flanged connections for ease of maintenance.



Model E956
Economical, dry line, pantograph style, top loader.



Model E460S
3" x 2" Model E460S designed for washing the interior of tank cars and trucks. The downspout is equipped with a rotating wash-head.




Model E252
This low profile 6" x 4" model is ideal for difficult connections.



Model E1156
Economical, medium range, dry line, pantograph style, top loader.




Model E473
Long range, heavy duty, bottom loading, hose type loader with dry break coupling.



Wet line

E155
Angle




Dry line


E150
Inline

Deadman Loading Valve

Deadman valves provide a safety feature that, **when not** held open manually, the valve will close automatically without causing shocks in the system. These valves feature a dual poppet to provide ease when opening and give precise control over filling. An adjustable by-pass provides smooth shockless closing yet allows the user to regulate the closing characteristics. These valves are available with either threaded or flanged connections. Standard construction is aluminium with buna seals. Other materials are available upon request.




E857




E856

Swivel Joints


These ductile iron swivels feature ball and taper bearings to provide perfect alignment of components and friction free movement of the loading arm. The O-Ring seals are replaceable without having to disassemble the loading arm. The E857 comes standard with a flanged inlet. The outlet may be flanged or threaded. The E856 may be flanged or threaded both ends. Other materials are available upon request.



E90V




E298



E853

Spring Balance Assemblies

These spring balance units permit the loading arms to be easily lowered to the loading position. When the arm is raised to the horizontal position, the spring balances will automatically raise the arm to the park position. All units can be field adjusted to give different return speeds and park angles. The E90V is used on the short range 900 series loading arms, the E298 on the medium reach 1100 series and the E853 on the long range 400 and 500 series. **Spring assemblies are shown mounted on swivels for illustration purposes.**




E905

Remote Valve Levers

Model E905 Valve Control Lever provides remote control of the E150 Deadman Loading valve at the point of filling and when the handle is released the valve closes automatically.


Model E11A can lock the valve in the open position. In case of fire, a fusible link releases the lever and closes the valve automatically.



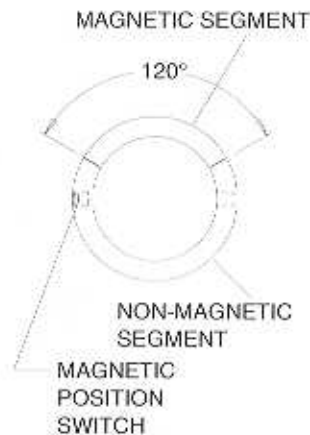
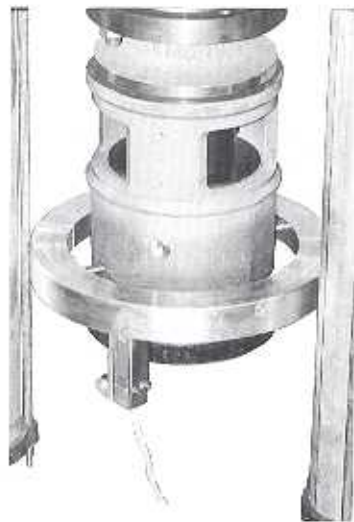
E11A

Hold Down Device

Model E100 Hold Down Device locks the loading arm in the loading position. In many cases it can be hazardous for the operator to stand over the fill hole. (e.g. fumes or heat etc.) This option leaves the operator free to view the fill yet maintain control from a safe distance. **Levers shown mounted on arms for illustration purposes.**



E100



**E6568
Magnetic Position Switch**

Model E6568 Magnetic Position Switch is used to send a signal to indicate which side of the rack a loading arm is filling or is pointing. If the arm is in the correct position, the operator may start the loading operation. A typical actuator is made of two segments, with 120° magnetic and 240° non-magnetic, depending on customer requirements. When the magnetic portion passes within range of the sensor, a signal is sent to indicate the position of the arm.



**E591
Poppet Check Valve**

Model E591 Poppet Check Valves are usually located before the drop tube. The main function is to stop any fluid that may have accumulated on the walls of the loading arm tubes from dripping when the filling operation is complete. The valves are available with male and/or female threads or with flanges. Springs are available to give various cracking pressures. Standard cracking pressure is 3 psi.

**E31
Drip Bucket**



The Drip Bucket is used to catch the latent fill from the loading arm and accumulated residue from drop pipes.

**EP910
Ultrasonic Level Sensor**



Model EP910 Level Sensor is used to send a signal when the liquid level in a tank truck or rail car being filled reaches a predetermined level. The signal may be used to shut-off the pump or trigger an alarm.

**E19
Vacuum Relief Valve**



Usually mounted on the deadman valve, the model E19 is used to break the vacuum generated in the loading arm when the arm is being removed from the fluid.

Standard Swivels, Series 80

Size	A		B		C		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2	6.25	159	3.38	86	6.50	165	7.13	181
2.5	7.38	187	4.25	108	7.13	181	7.63	194
3	7.38	187	4.50	114	7.38	187	7.63	194
4	8.44	214	5.00	127	7.94	202	7.63	194

Consult factory for flanged dimensions and materials available.

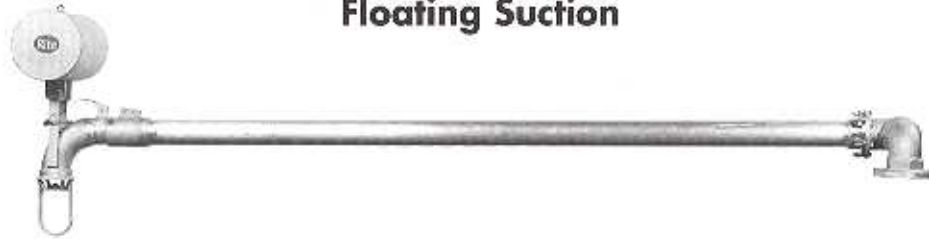
Chemical Cartridge Seal Swivels, Series 90

Size	A		B		C		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2	9.56	243	2.00	51	7.56	192	5.56	141
2.5	11.06	281	2.50	64	8.56	217	6.06	154
3	12.06	306	3.00	76	9.06	230	6.06	154

Size	A		B		C		D	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
4	15.19	386	4.00	102	11.19	284	7.19	183
6	20.00	508	6.00	152	14.00	356	8.00	203
8	28.00	711	8.00	203	20.00	508	12.00	305

Consult factory for flanged dimensions and materials available.

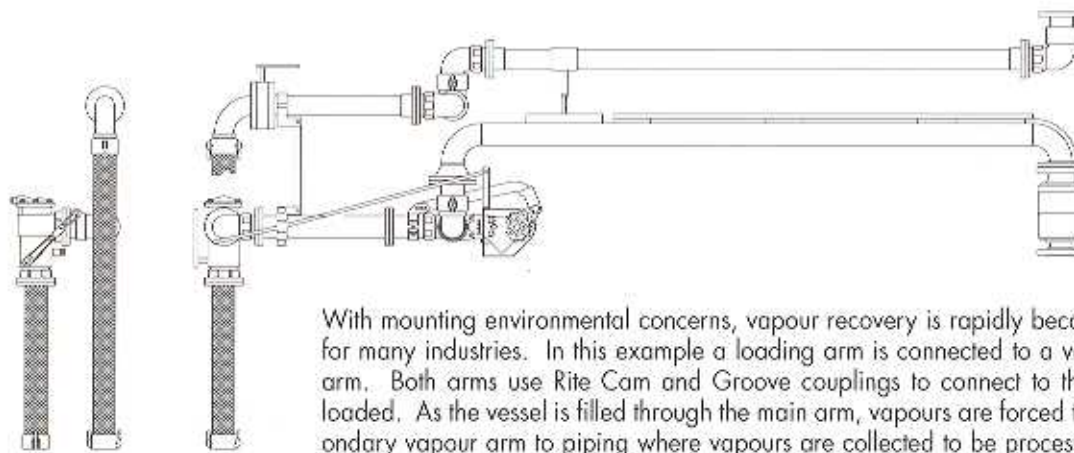
Floating Suction



Floating Suction Assemblies are designed to draw off uncontaminated fuel from just below the surface of liquid storage tanks. The floats ensures that water, foreign matter or sediment at the bottom of the tank is not withdrawn with the fuel. A pivot mounted, unsinkable aluminium float will provide the buoyancy required to keep the floating suction near the surface of the fluid.

The intake faces downwards and is fitted with a deflector plate to provide anti-vortex protection and stop the ingress of contamination from the bottom of the tank. A brace at the end of the intake will ensure that the distance from the base of the tank to the intake is a minimum of 9 inches. Floating suction are custom made to meet the individual requirements of each installation. Diameters and lengths or heights of tank must be provided. For tanks in which the height is much greater than the diameter, assemblies can be supplied where the float operates submerged.

Vapour Recovery Systems



With mounting environmental concerns, vapour recovery is rapidly becoming standard for many industries. In this example a loading arm is connected to a vapour recovery arm. Both arms use Rite Cam and Groove couplings to connect to the vessel being loaded. As the vessel is filled through the main arm, vapours are forced through the secondary vapour arm to piping where vapours are collected to be processed.

Vapour Recovery Components Stage 1



F4040CV



F4040DV



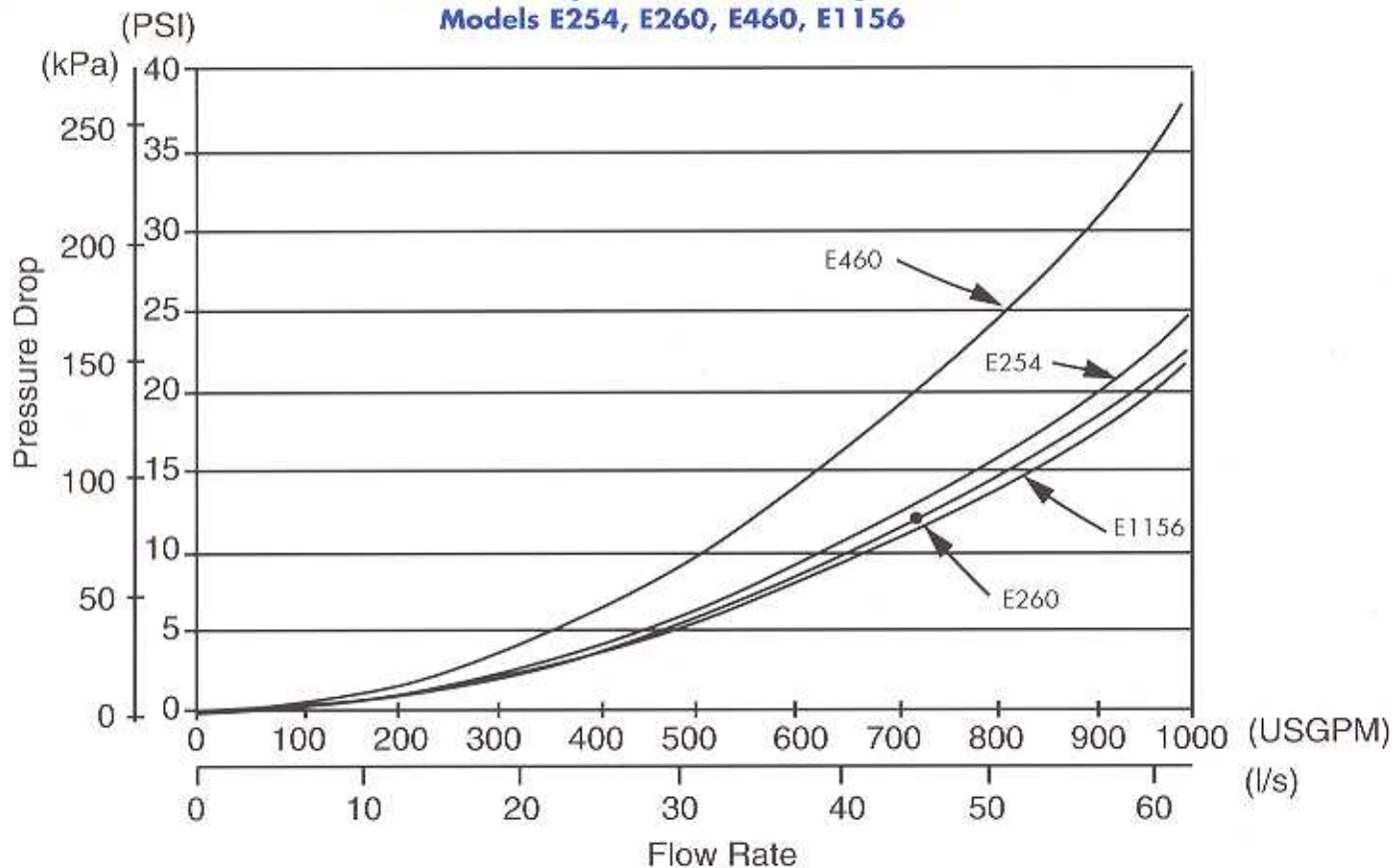
F40040



F4040FV

Rite Cam and Groove couplings are used on loading arms where vapour recovery is required. These are a few examples of the styles that are available. Contact the factory for more detailed information on sizes and materials.

**Pressure Drop for 4" Rite Loading Arms
Models E254, E260, E460, E1156**



For other sizes and specific configurations, please contact the factory.

Prices and Quotations

Prices quoted do not include taxes and are F.O.B. our plant. All quotations by our distributors are subject to confirmation and acceptance by head office. Quotations are firm for 30 days.

Registration

Loading Arms are registered in all Canadian Provinces under the authority of the Boiler and Pressure Vessels Act, as detailed in CSA Standard B51.
Base Canadian Registration Number
OA 0577.6

Cancellations and Returns

Firm orders accepted by us may only be cancelled subject to recovery of costs incurred. No goods may be returned for credit unless authorized by head office and subject to restocking and handling charges.
Loading arms manufactured for special applications cannot be returned for credit.

Warranty

Ritepro Corporation warrants any of its products against defects of materials or workmanship for a period of one year from date of shipment and is limited to repair, replacement or refunding of purchase price. We will not be responsible for any claims for labour or any other expenses or consequential or secondary damages in any case.



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