



Elevator Equipment Corporation

New Installations
Replacements
Modernizations
Service & Repair

JACK UNITS

FOR HYDRAULIC ELEVATORS

Green
Compatible

Single Stage, Two Stage &
Three Stage Telescopic
for In-ground &
Holeless Applications

(888) 577-EECO ♦ sales@eecomail.com ♦ www.elevatorequipment.com
4035 Goodwin Ave., Los Angeles, CA 90039 ♦ 2230 N.W. 12th St., Richmond, IN 47374

HYDRAULIC JACK UNITS

Elevator Equipment Corporation (EECO) has been manufacturing hydraulic elevator equipment since 1946, and is one of the leading suppliers in the industry for hydraulic jack units and replacement cylinders and pistons. EECO can provide jack units for any application, from small capacity residential to the largest freight elevators. EECO has over 30 standard size jack units with many piston wall thicknesses available to meet your predetermined specifications or our engineering and sales staff can work with you to determine which EECO Jack Unit is right for your application.



All EECO jack units are manufactured with precision equipment, experienced production personnel, and a knowledgeable engineering staff to produce a quality product for our customers. The latest CNC equipment and technology is utilized to assure strict adherence to essential dimensions and tolerances. All EECO products are designed and manufactured in accordance with the Safety Code for Elevators and Escalators, ASME A17.1/CSA B44. With years of testing and field study, EECO has designed jack units that are unparalleled in the industry for performance and reliability. The primary objective of Elevator Equipment Corporation is to provide a quality product that consistently meets or exceeds the contractual demands and expectations of our customers.

Please see back page for reproducible request for quote form.

EECO manufacturing facilities are located on the west coast in Los Angeles, California, and in the mid-west in Richmond, Indiana to provide prompt coast to coast service and support.

For more information about EECO Hydraulic Jack Units

Contact Us!

Monday - Friday 8:00 am EST - 4:30 p.m. PST

888-577-EECO (3326)

or email us at sales@eecomail.com

For more details anytime visit us on the web
www.elevatorequipment.com

DELIVERY & LEAD TIMES

It is our goal to deliver a jack unit when needed. If rush delivery is required, EECO can manufacture and ship certain jack units in as little as 48 hours. Contact EECO for current lead times.



TJR-250



PJR SERIES CUT AWAY



COMPARISON

Jack Types	SINGLE STAGE	TWO & THREE STAGE TELESCOPIC
Description of Jack Unit	<p>Single stage jack units (PJR and LJ series) consist of a single piston in a cylinder with head bearing and packing gland at the upper end where the piston collapses into the cylinder.</p> <p>Single stage jacks are designed for "guided" applications only, where the Jack unit is rigidly supported and guided through the use of guide rails and guide shoes.</p>	<p>Two stage telescopic jack units (TJR series) consist of upper and lower pistons, a cylinder, and a head bearing and packing gland for each piston. The lower piston is fitted with an additional packing gland at the lower end which rides against the internally honed cylinder.</p> <p>Three stage telescopic jack units (TJ3 series) consist of upper, intermediate, and lower pistons, a cylinder, and a head bearing and packing gland for each piston. The intermediate and lower pistons are fitted with additional packing glands at their lower ends which ride against the internally honed cylinder and lower piston.</p> <p>All telescopic jacks have a synchronous design where all pistons raise and lower at the same speed and at the same time.</p> <p>Telescopic jacks are designed for "guided" applications only, where the Jack unit is rigidly supported and guided through the use of guide rails and guide shoes. In some applications a piston follower guide may be required on all moving heads to meet code requirements. (Contact EECO).</p>
Size	<p>PJR jacks are available from 2.75" to 8.5" (70 to 220 mm) piston diameter, in a wide range of wall thicknesses.</p> <p>LJ jacks are available from 9.5" to 20" (241 to 508 mm) piston diameter, in a wide range of wall thicknesses.</p> <p>They can be provided in one section up to 70 ft (21 m). Multi-section jack units can be provided in as many sections as required for the application.</p>	<p>Two stage telescopic jacks are available from 1.6" to 4.5" (41 to 114 mm) upper piston diameter, in a wide range of wall thicknesses.</p> <p>Three stage telescopic jacks are available from 1.6" to 2.5" (41 to 64 mm) upper piston diameter.</p> <p>Telescopic jacks are available in one section only (no multi-section)</p>
Application	<p>Single stage jacks are designed for in-ground and holeless cantilever or dual system applications.</p>	<p>Two stage telescopic jacks are designed for in-ground and holeless cantilever or dual system applications.</p> <p>Three stage telescopic jacks are designed for only holeless cantilever or dual system applications.</p>
Pressure Rating	<p>PJR series: 680 psi (46.9 bar) maximum working pressure</p> <p>LJ series: 500 psi (34.5 bar) maximum working pressure</p>	<p>TJR series: 1200 psi (82.7 bar) maximum working pressure</p>
Temperature	<p>Designed for operating temperatures up to 150°F (65°C) maximum. Recommended operating temperature is 65° to 95°F (18° to 35°C).</p>	
Material & Welding	<p>All EECO jack units are designed and manufactured in accordance with ASME A17.1/CSA B44. All steel parts are fabricated and machined from high strength carbon steel. All welding is in accordance with the requirements of Part 8 of ASME A17.1/CSA B44.</p>	
Head Bearing & Packing Gland	<p>The jack heads are designed for ease of disassembly when repacking. An oil collection groove is provided and arrangement is included to connect an oil drain line to catch and reclaim oil that collects in the groove (it is necessary for the piston to carry a film of oil through the packing in order to provide smooth and quiet operation). The packing gland arrangement consists of a "pressure balanced" "U" type seal, a bearing and a wiper ring. Seals are designed for 150°F (65°C) maximum operating temperature. Recommended good brand of ISO VG 32 turbine oil with a viscosity of 150 ssu @ 100° F (38° C). A biodegradable (vegetable) oil is acceptable if it meets the same specifications.</p>	
Piston	<p>The upper end of the piston is fitted with a drilled and tapped plate, to receive a standard bolt for attachment to the platen plate (special mounting arrangements can be provided). The bottom of the piston is closed with a steel plate and is fitted with a stop ring to prevent the piston from leaving the cylinder. The piston is ground and polished to a surface finish of 15 to 20 µin (.38 to .50 µm). Allowable variation in diameter after polishing is ± .015" (.381 mm). Multi-section pistons are joined with an internally threaded coupling, using Acme type thread for ease of assembly. All sections are assembled, sanded, and polished across the joints to ensure a matching surface.</p>	
Cylinder	<p>Jack units manufactured for in-ground, or partial in-ground, installations are furnished with a safety bulkhead and seamless steel pipe cap at the bottom of the cylinder. Holeless units include a flat steel mounting plate, all in accordance with ASME A17.1/CSA B44. Bleeder plugs are included to purge air from the jack unit. Standard pit supports are welded to the cylinder for mounting to pit channels when required (various designs can be provided to suit any requirement). A threaded or grooved oil line connection is provided. All cylinders are thoroughly cleaned, inspected, and tested for oil leaks; and then painted with a heavy coat of an anti-corrosive material.</p>	
Cylinder Joints	<p>EECO offers several types of cylinder joints:</p> <ol style="list-style-type: none"> *API threaded coupling up through 16" (406 mm) cylinder OD. *Slip-fit (slide together coupling, no threads). *Butt-weld (with beveled ends for welding in field and "knock-off" pipe couplings for bolting the sections together during assembly and welding). * EECO ADVISES JOINTS MUST BE WELDED AFTER ASSEMBLY. No weld threaded coupling up through 10.75" (273 mm) cylinder OD. 	
Corrosion Protection	<p>EECO can provide optional types of cylinder protection beyond the standard coating material, including:</p> <ol style="list-style-type: none"> Tape wrap (polyvinyl chloride tape), wrapped to a minimum of 20 mm thickness, or more as required. Special epoxy paint. PVC pipe, installed by an "Omega" style adapter ring and sealed at the top, with inspection ports as required by ASME A17.1/CSA B44. PVC is available as schedule 40 or schedule 80 and is furnished in the number of sections as required, with a pipe end cap for sealing the lower end. Other connection types available. <p>Also available is an Electronic Leak Monitoring System for the sealed PVC cylinder protection. Other means of protection available are a Flexible Liner, or Corrosion Prevention Compound. Contact EECO for more details about all available corrosion protection options.</p>	
Custom Applications	<p>Double Bearing - Double bearing jack units consist of a single piston in a cylinder with a head bearing and packing gland at the upper end. An additional support bearing is located below the head bearing to allow the piston to carry an eccentric (off center) load without external guides. These jacks are normally used in applications that are not within the scope of ASME A17.1/CSA B44 however, EECO double bearing jack units are still designed in accordance to these guidelines.</p> <p>In addition to hydraulic elevators EECO can provide jack units for any number of applications in other industries. Contact EECO for assistance with your custom engineered hydraulic jack requirements.</p>	

EECO can provide special size jack units to meet your requirements! Call us today for a quote: (888) 577-EECO!

PJR SERIES

Model				Piston Wall Thickness		Piston Weight	
Piston Dia.		Cylinder Dia.					
in	(mm)	in	(cm)				
Area of Piston		Piston Disp.					
in ²	(cm ²)	gal/ft	(lit/m)	in	(mm)	lbs/ft	(kg/m)
PJR-275				0.240	(6.1)	6.5	(9.7)
2.750	(69.9)	4.50	(11.4)	0.303	(7.7)	8.5	(12.6)
5.94	(38.3)	0.31	(3.8)	0.365	(9.3)	9.8	(14.6)
PJR-3NET				0.240	(6.1)	7.1	(10.6)
3.000	(76.2)	4.50	(11.4)	0.365	(9.3)	10.9	(16.2)
7.07	(45.6)	0.37	(4.6)				
PJR-3R				0.268	(6.8)	10.4	(15.5)
3.437	(87.3)	5.56	(14.1)	0.568	(14.4)	18.2	(27.1)
9.28	(59.9)	0.48	(6.0)				
PJR-387				0.256	(6.5)	11.6	(17.3)
3.875	(98.4)	6.63	(16.8)	0.365	(9.3)	15.1	(22.5)
11.79	(76.1)	0.61	(7.6)	0.574	(14.6)	21.2	(31.5)
PJR-4NET				0.240	(6.1)	9.8	(14.6)
4.000	(101.6)	6.63	(16.8)	0.303	(7.7)	13.7	(20.4)
12.57	(81.1)	0.65	(8.1)	0.365	(9.3)	15.7	(23.4)
PJR-4				0.275	(7.0)	14.4	(21.4)
4.375	(111.1)	6.63	(16.8)	0.375	(9.5)	18.1	(26.9)
15.03	(97.0)	0.78	(9.7)	0.468	(11.9)	21.3	(31.7)
				0.611	(15.5)	26.0	(38.7)
PJR-5NET				0.240	(6.1)	12.5	(18.6)
5.000	(127.0)	8.63	(21.9)	0.303	(7.7)	18.2	(27.1)
19.64	(126.7)	1.02	(12.7)	0.365	(9.3)	20.8	(31.0)
				0.490	(12.4)	26.0	(38.7)
				0.615	(15.6)	30.8	(45.8)
PJR-5				0.312	(7.9)	20.8	(31.0)
5.437	(138.1)	8.63	(21.9)	0.437	(11.1)	26.7	(39.7)
23.22	(149.8)	1.21	(15.0)	0.562	(14.3)	32.2	(47.9)
				0.687	(17.4)	37.3	(55.5)
PJR-6NET				0.240	(6.1)	15.3	(22.8)
6.000	(152.4)	8.63	(21.9)	0.365	(9.3)	26.3	(39.1)
28.27	(182.4)	1.47	(18.2)	0.490	(12.4)	32.7	(48.7)
				0.615	(15.6)	38.8	(57.7)
PJR-6				0.365	(9.3)	29.2	(43.5)
6.500	(165.1)	8.63	(21.9)	0.369	(9.4)	29.5	(43.9)
33.18	(214.1)	1.72	(21.4)	0.499	(12.7)	36.8	(54.8)
				0.656	(16.7)	45.2	(67.3)
				0.801	(20.3)	52.4	(78.0)
PJR-6SPL				0.365	(9.3)	29.2	(43.5)
6.500	(165.1)	10.75	(27.3)	0.369	(9.4)	29.5	(43.9)
33.18	(214.1)	1.72	(21.4)	0.499	(12.7)	36.8	(54.8)
				0.656	(16.7)	45.2	(67.3)
				0.801	(20.3)	52.4	(78.0)
PJR-7NET				0.240	(6.1)	18.2	(27.1)
7.000	(177.8)	10.75	(27.3)	0.365	(9.3)	32.1	(47.8)
38.48	(248.3)	2.00	(24.8)	0.490	(12.4)	39.7	(59.1)
PJR-7				0.240	(6.1)	19.6	(29.2)
7.500	(190.5)	10.75	(27.3)	0.365	(9.3)	35.1	(52.2)
44.18	(285.0)	2.30	(28.5)	0.490	(12.4)	43.3	(64.4)
PJR-8NET				0.240	(6.1)	21.0	(31.3)
8.000	(203.2)	10.75	(27.3)	0.365	(9.3)	36.4	(54.2)
50.27	(324.3)	2.61	(32.4)	0.490	(12.4)	44.9	(66.8)
				0.615	(15.6)	55.7	(82.9)
PJR-8				0.260	(6.6)	24.2	(36.0)
8.500	(215.9)	10.75	(27.3)	0.437	(11.1)	45.7	(68.0)
56.75	(366.1)	2.95	(36.6)	0.656	(16.7)	61.1	(90.9)
				0.812	(20.6)	71.8	(106.9)
PJR-8SPL				0.260	(6.6)	24.2	(36.0)
8.500	(215.9)	12.75	(32.4)	0.437	(11.1)	45.7	(68.0)
56.75	(366.1)	2.95	(36.6)	0.656	(16.7)	61.1	(90.9)
				0.812	(20.6)	71.8	(106.9)

To determine the proper size required, and maximum gross load versus travel or for other inquiries about collapsed height or bore hole requirements contact EECO.

NOTE: All values and dimensions are subject to change without notice.

LJ SERIES

Model				Piston Wall Thickness		Piston Weight	
Piston Dia.		Cylinder Dia.					
in	(mm)	in	(cm)				
Area of Piston		Piston Disp.					
in ²	(cm ²)	gal/ft	(lit/m)	in	(mm)	lbs/ft	(kg/m)
LJ-9				0.240	(6.1)	25.6	(38.1)
9.500	(241.3)	12.75	(32.4)	0.365	(9.3)	41.3	(61.5)
70.88	(457.3)	3.68	(45.7)	0.490	(12.4)	51.6	(76.8)
LJ-10				0.303	(7.7)	35.8	(53.3)
10.625	(269.9)	12.75	(32.4)	0.437	(11.1)	57.9	(86.2)
88.66	(572.0)	4.61	(57.2)	0.532	(13.5)	66.6	(99.1)
				0.781	(19.8)	88.7	(132.0)
LJ-10SPL				0.303	(7.7)	35.8	(53.3)
10.625	(269.9)	14.00	(35.6)	0.437	(11.1)	57.9	(86.2)
88.66	(572.0)	4.61	(57.2)	0.532	(13.5)	66.6	(99.1)
				0.781	(19.8)	88.7	(132.0)
LJ-12				0.437	(11.1)	72.9	(108.5)
12.625	(320.7)	16.00	(40.6)	0.625	(15.9)	93.6	(139.3)
125.19	(807.6)	6.50	(80.8)	0.939	(23.9)	126.7	(188.6)
LJ-14				0.437	(11.1)	80.4	(119.6)
13.875	(352.4)	16.00	(40.6)	0.688	(17.5)	110.9	(165.0)
151.20	(975.5)	7.85	(97.5)				
LJ-14SPL				0.437	(11.1)	80.4	(119.6)
13.875	(352.4)	18.00	(45.7)	0.688	(17.5)	110.9	(165.0)
151.20	(975.5)	7.85	(97.5)				
LJ-16				0.437	(11.1)	97.3	(144.8)
15.875	(403.2)	20.00	(50.8)	0.594	(15.1)	119.7	(178.1)
197.93	(1277.0)	10.28	(127.7)	0.781	(19.8)	145.5	(216.5)
LJ-18				0.437	(11.1)	90.6	(134.8)
17.875	(454.0)	22.00	(55.9)	0.500	(12.7)	119.6	(178.0)
250.95	(1619.0)	13.04	(161.9)	0.688	(17.5)	137.7	(204.9)
LJ-20				0.750	(19.1)	184.7	(274.9)
20.000	(508.0)	24.00	(61.0)				
314.16	(2026.8)	16.32	(202.7)				

TJR & TJ3 SERIES

Model				Upper Piston Wall Thickness		Piston(s) Weight per Total Travel	
Upper Piston Dia.		Cylinder Dia.					
in	(mm)	in	(cm)				
Piston Disp. per Total Travel		Piston Disp.					
gal/ft		(lit/m)		in	(mm)	lbs/ft	(kg/m)
Two Stage Jack Unit							
TJR-160				0.437	(11.1)	2.8	(4.1)
1.600	(40.6)	3.60	(9.1)				
0.20		(2.5)					
TJR-250				0.375	(9.5)	4.3	(6.4)
2.500	(63.5)	5.00	(12.7)	0.500	(12.7)	5.4	(8.0)
0.41		(5.1)		0.625	(15.9)	6.5	(9.7)
				0.750	(19.1)	7.1	(10.6)
TJR-275				0.375	(9.5)	4.8	(7.1)
2.750	(69.9)	5.75	(14.6)	0.500	(12.7)	6.1	(9.1)
0.51		(6.3)		0.625	(15.9)	7.1	(10.6)
				0.750	(19.1)	8.1	(12.1)
TJR-400				0.375	(9.5)	7.3	(10.9)
4.000	(101.6)	7.50	(19.1)	0.500	(12.7)	9.6	(14.3)
1.00		(12.4)		0.625	(15.9)	11.3	(16.8)
				0.750	(19.1)	13.1	(19.5)
TJR-450				0.375	(9.5)	8.3	(12.4)
4.500	(114.3)	8.00	(20.3)	0.500	(12.7)	10.7	(15.9)
1.14		(14.2)		0.625	(15.9)	13.0	(19.3)
				0.750	(19.1)	15.1	(22.5)
Three Stage Jack Unit							
TJ3-160				0.437	(11.1)	4.8	(7.1)
1.600	(40.6)	5.25	(13.3)				
0.31		(3.8)					
TJ3-250				0.375	(9.5)	6.0	(8.9)
2.500	(63.5)	7.25	(18.4)	0.500	(12.7)	6.7	(10.0)
0.62		(7.7)		0.625	(15.9)	7.5	(11.2)
				0.750	(19.1)	7.9	(11.8)

TJR / TJ3 OVERTRAVEL RECOMMENDATIONS

Car Speed		Bottom Overtravel		Top Overtravel	
ft/min	(m/s)	in	(mm)	in	(mm)
100	(0.5)	7	(178)	9	(229)
125	(0.6)	9	(229)	11	(279)
150	(0.8)	10	(254)	12	(305)
175	(0.9)	11	(279)	13	(330)
200	(1.0)	12	(305)	14	(356)

JACK, PISTON OR CYLINDER REPLACEMENT

EECO specializes in Jack Unit Replacement. We can provide an exact replacement, either piston, cylinder or complete jack units, regardless of original make or manufacturer. Before 1972 many companies installed hydraulic elevators with flat bottom in-ground jack units, many without any corrosion protection at all. Failures on these older designs may cause rupturing of the cylinder and uncontrolled decent of the elevator. Today's ASME A17.1/CSA B44, Section 8.6.5.8 requires single bottom jack units (cylinders) to be replaced with double bottom cylinders.

QUALITY ASSURANCE



Quality Control, is an essential and integral part of our manufacturing process. Every phase of production is monitored and checked to assure that each jack unit is built and assembled in accordance with engineering and customer specifications to meet the quality standards required by Elevator Equipment Corporation. From the initial process of material in the door, to the final process of placing the product on the truck, you can be assured that our high quality standards are met and that the finished product meets your requirements.

ELECTRONIC LEAK MONITORING SYSTEM

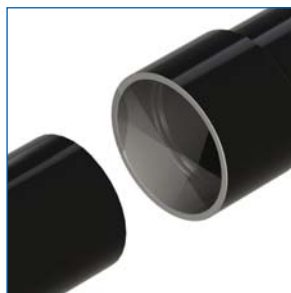
The Electronic Leak Monitoring System is designed to detect the presence of a liquid in the space between the jack cylinder and the sealed PVC liner, and differentiates between oil and water which provides continual monitoring, 24 hours a day, 7 days a week. Built in LED lights indicate the presence of liquid. If oil is detected a buzzer will sound as an added indication. The control box can be tied into the controller to shut the system down, or to a phone system, to provide notice of a possible leak in the jack cylinder.



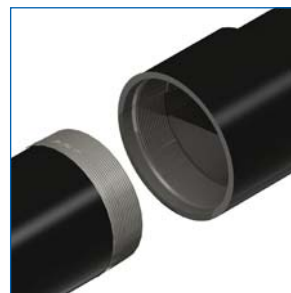
CYLINDER JOINT TYPES



Butt Weld



Slip Fit



Threaded API



No Weld Threaded

Date _____ Date Required _____

New Installation Modernization Replacement Repair Out of Service

CUSTOMER INFORMATION

Company _____ Contact _____
 Address _____ Phone _____ Ext. _____ Fax _____
 City _____ St. _____ Zip _____ Email _____
 Project Name _____ Ship Date Required _____

Provide data as complete as possible. Our ability to provide proper equipment depends upon the completeness and accuracy of the data that you furnish.

JACK UNIT DETAILS

Quantity Required _____
 In-ground Holeless Telescopic
 Direct Acting Cantilever 1:2 Roped
 Complete Jack Unit
 Cylinder Only with Head Seamless
 Piston Only with Head/Flange Seamless
 Special Requirements _____

Single Piece
 Multi-Piece
 No. of Sections _____ or
 Longest Section _____

API Threaded Slip Weld
 No Weld Threaded Butt Weld

Standard Paint Tape Wrap Epoxy Paint
 Coats/Layers _____ qty
 Sealed PVC Sch. 40 Sch. 80
 Flexible Liner
 Evacuation System
 Electronic Leak Monitoring System
 Provisions for Corrosion Prevention Compound
 Buy American Act Requirement

JACK UNIT ACCESSORIES

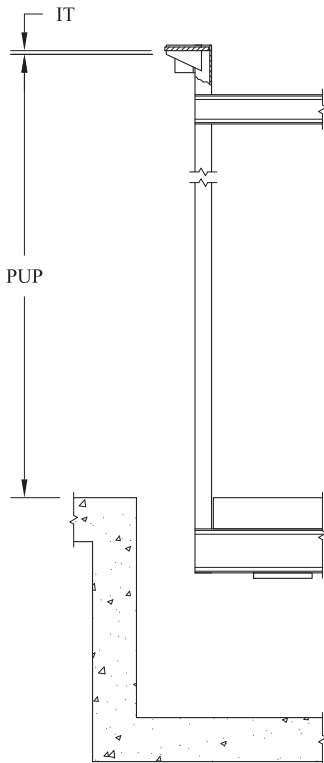
Platen Plate or Isolated Platen
 Pit Channels &/or Buffers
 PRV NPT Grooved
 Shut Off _____ qty NPT Grooved

Spare Packing Set
 Provisions for Piston Gripper
 Scavenger System
 Biodegradable (Vegetable) Oil

Future Travel Stop Ring _____ in
 Jack Steadier Brackets _____ qty
 Piston Clamps _____ qty
 Lifting Clamps _____ qty

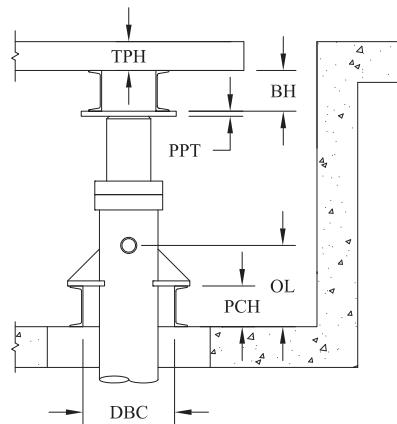
HOLELESS DIMENSIONS

Isolation Thickness _____ ft _____ in (IT)
 Pick Up Point _____ ft _____ in (PUP)

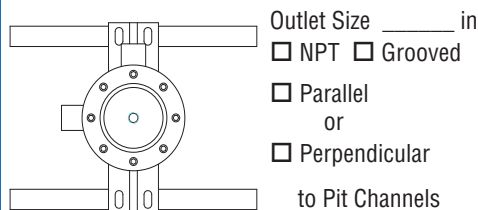


IN-GROUND DIMENSIONS

Total Platform Height _____ in (TPH)
 Bolster Height _____ in (BH)
 Platen Plate Thickness _____ in (PPT)
 Outlet Location _____ in (OL)
 Pit Channel Height _____ in (PCH)
 Distance Between Channels _____ in (DBC)



OUTLET ORIENTATION



JOB SPECIFICATIONS

Capacity _____ lbs
 Car Weight _____ lbs
 Piston Weight _____ lbs
 Total Gross _____ lbs
 Car Speed _____ fpm
 Piston Diameter _____ in
 or Circumference _____ in
 Wall Thickness _____ in
 Cylinder Diameter _____ in
 or Circumference _____ in
 Existing Casing Diameter _____ in
 Strike Plate Thickness _____ in
 Overhead _____ ft _____ in
 Total Floor Travel _____ ft _____ in
 Pit Depth _____ ft _____ in
 Top Overtravel _____ in
with piston fully extended
 Bottom Overtravel _____ in
Runby, Spring Compression, and Clearance

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