



3R VALVE

10" VALVE

COMPONENTS

SAMPLE SUBMITTAL



SAMPLE HEAD LOSS SCHEDULE
ACTUAL NUMBERS WILL CHANGE
PER DESIGN PROCESS

Estimate of Head Loss Through 3R Valve		Size	Ratio
Step 1.	Column D1, Inside Diameter (ID)	10.00" ID	
Step 2.	Gland D2, Inside Diameter of Gland	6.50" ID	D2/D1: 0.65
Step 3.	Body Size D3, Inside Diameter of Body	7.75" ID	D2/D3: 0.84
Step 4.	UHMW Size D4, Inside Diameter of UHMW	8.00" ID	D2/D4: 0.81
Step 5.	Overall Gland Length	30.00" OL	D4/D3: 1.03
Step 6.	Shaft Outer Diameter (OD)	2.00" OD	
Entrance "K" Factor D2/D1: 0.29		Exit "K" Factor D2/D4: 0.12	
Entrance "K" Factor D2/D3: 0.15		Exit "K" Factor D4/D3: 0.00	
		Exit "K" Factor D2/D1: 0.33	
Step 7.	Flow Rate Gallons Per Minute (GPM)	1,500 gpm	
Column Cross-Sectional Area: 75.40 sq. in.		Column Velocity:	6.38 fps
Gland Cross-Sectional Area: 30.04 sq. in.		Gland Velocity:	16.02 fps
Body Cross-Sectional Area: 44.03 sq. in.		Body Velocity:	10.93 fps
UHMW Cross-Sectional Area: 47.12 sq. in.		UHMW Velocity:	10.21 fps
Entrance Head Loss from Column into Top Gland:			1.15 ft
Exit Head Loss from Top Gland into UHMW:			0.47 ft
Exit Head Loss from UHMW into Body:			0.00 ft
Exit Head Loss from Valve:			ft
Gland Head Loss:			0.29 ft
Absolute Surface Roughness: 0.0018"		Total Head Loss:	1.90 ft
		Adjusted Head Loss:	2.19 ft
Step 8.	Correction Factor:	1.15	



2207 W. DAKOTA | Hayden, ID 83835
www.wapti-consulting.com
(208) 651-1120

NO.	DATE	REVISION	BY
1			NR
DWC TITLE			
INJECTION WELL HEAD LOSS SCHEDULE			
ENGINEER	MFJ	CHECKED BY	MFJ
JOB NO	WO-2070	DRAWN BY	NEK
SCALE	NO SCALE	DATE	01/09/2023
DWG NO	H-L		
SHEET NO	22 OF 29		

C:\USERS\KORTI\ONE DRIVE\DOCUMENTS\ACADE 2017\AEDATA\PROJ\CANYON RIDGE\E-10 SITE OVERVIEW.DWG



789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

EVALUATION REPORT

Send To: C0362147

Mr. Kent Madison
3R Valve, LLC
29299 Madison Road
Echo, OR 97826

Facility: C0362154

3R Valve, LLC
29299 Madison Road
Echo OR 97826
United States

Result	PASS	Report Date	19-MAY-2023
Customer Name	3R Valve, LLC		
Tested To	NSF/ANSI/CAN 61		
Description	ASR (Aqua System Recovery) Valve Components		
Trade Designation	ASR (Aqua System Recovery) Valve		
Test Type	Annual Retest		
Job Number	J-00434105		
Project Number	W0735654		
Project Manager	James Tucker		

Thank you for having your product tested by NSF.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization

Abbie Batog - Senior Manager Commercial Water

Date 19-MAY-2023

Date: 2/9/2022
01853
PASCO MACHINE COMPANY INC.
518 WEST COLUMBIA STREET

PASCO, WA99301
PO Number: 75091



American Spincast, Inc.

2505 Taylors Valley Rd
P.O. Box 769
Belton, TX 76513
Phone: (254) 613-5150

Certified Test Report

Casting Information:

WO Number:	119295	Line Number:	1
Quantity:	4	Tag Number:	
Alloy:	303	Casting Size:	8 X 4 X 15 3/4
Heat Date:	02/02/2022	Heat Number:	A15179B

Chemical Composition:

Al: Aluminum	0.000%	Mg: Magnesium	0.000%	S: Sulfur	0.265%
C: Carbon	0.070%	Mn: Manganese	1.790%	Si: Silicon	0.870%
Cr: Chromium	17.950%	Mo: Molybdenum	0.440%	Sn: Tin	0.000%
Cb: Columbium	0.000%	N: Nitrogen	0.000%	Ta: Tantalum	0.000%
Co: Cobalt	0.000%	Ni: Nickel	8.670%	Ti: Titanium	0.000%
Cu: Copper	0.000%	P: Phosphorus	0.030%	V: Vanadium	0.000%
Fe: Iron	69.915%	Pb: Lead	0.000%	W: Tungsten	0.000%

Mechanical Properties:

Tensile Strength:	0 PSI	Hardness (HBW):	170
Yield Strength:	0 PSI	Hardness (HRb):	
Elongation (2 in.):	0.00 %	Hardness (HRC):	
Reduction of Area	0.00 %		

Additional Information

This centrifugally cast material meets the chemical requirements of the UNS Wrought Alloy Designation (13th Edition) and has been solution annealed at a minimum of 1900°F for one hour minimum per inch of wall section & water quenched.

Authorized Agent:



We certify that the above data is a true copy of the data resulting from tests performed in our laboratory or of the data furnished us by the laboratory performing the tests.

CALUMET BRASS FOUNDRY, INC.
14610 S. LAKESIDE AVE.
DOLTON, ILLINOIS
TEL: (708) 849-3040 FAX: (708) 849-6343

HEAT NUMBER: 2151858
PURCHASE ORDER: 74228
DATE: DECEMBER 15, 2021

PASCO MACHINE
518 W COLUMBIA ST
PASCO, WA 99301

QUANTITY: TFT- 1 PC – 8" OD X 5.75" ID X 42" LONG

SPECIFICATIONS: C89835/ FEDERALLOY III 932

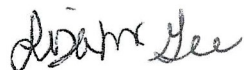
We certify the contents of this report to be correct and accurate and meet all the requirements of the material specifications."

CHEMICAL ANALYSIS		PHYSICAL ANALYSIS	
COPPER	86.5760	YIELD STRENGTH	
TIN	6.5200	TENSILE STRENGTH	
LEAD	0.0200	ELONGATION	
ZINC	3.5100		
BISMUTH	2.6950		
IRON	0.0400		
NICKEL (incl Co)	0.6130		
ALUMINUM	0.0020		
ANTIMONY	0.0060		
PHOSPHORUS	0.0160		
SULFUR	0.0010		
SILICON	0.0010		

This material has been melted and manufactured in the U.S.A.

We further certify that the material mentioned herein is free of mercury contamination.

Goods shipped against this order have been manufactured according to the requirements of above purchase order.



AUTHORIZED SIGNATURE

VERIFIED BY: PTL

DEC 21 2021

SCOT INDUSTRIES, INC.

3020 FORON RD.
1121 HARRISON AV PMB 293
CENTRALIA WA 98531

Material Test Report

Customer Order No: JOE 1/10 EMAIL

Scot Order No:

928001.01

3R VALVE LLC 29299 MADISON ROAD ECHO OR 97826	Material Supplier: Part Number: Scot Rec. No: 10307304
---	--

Heat Number: 309490	Grade: 316 / 316L	Dimensions: 8.625" / 8.675" OD 7.650" ID
Scot Spec: MS-	ASTM Spec: A511	Other Spec:
Description: HFS ANNEAL STAINLESS STEEL TUBING *MERCURY FREE *NO WELD REPAIR		

Chemical Analysis	C	Mn	P	S	Si	Ni	Cr	Mo						
	0.027	1.60	0.021	0.028	0.43	11.34	16.87	2.15						

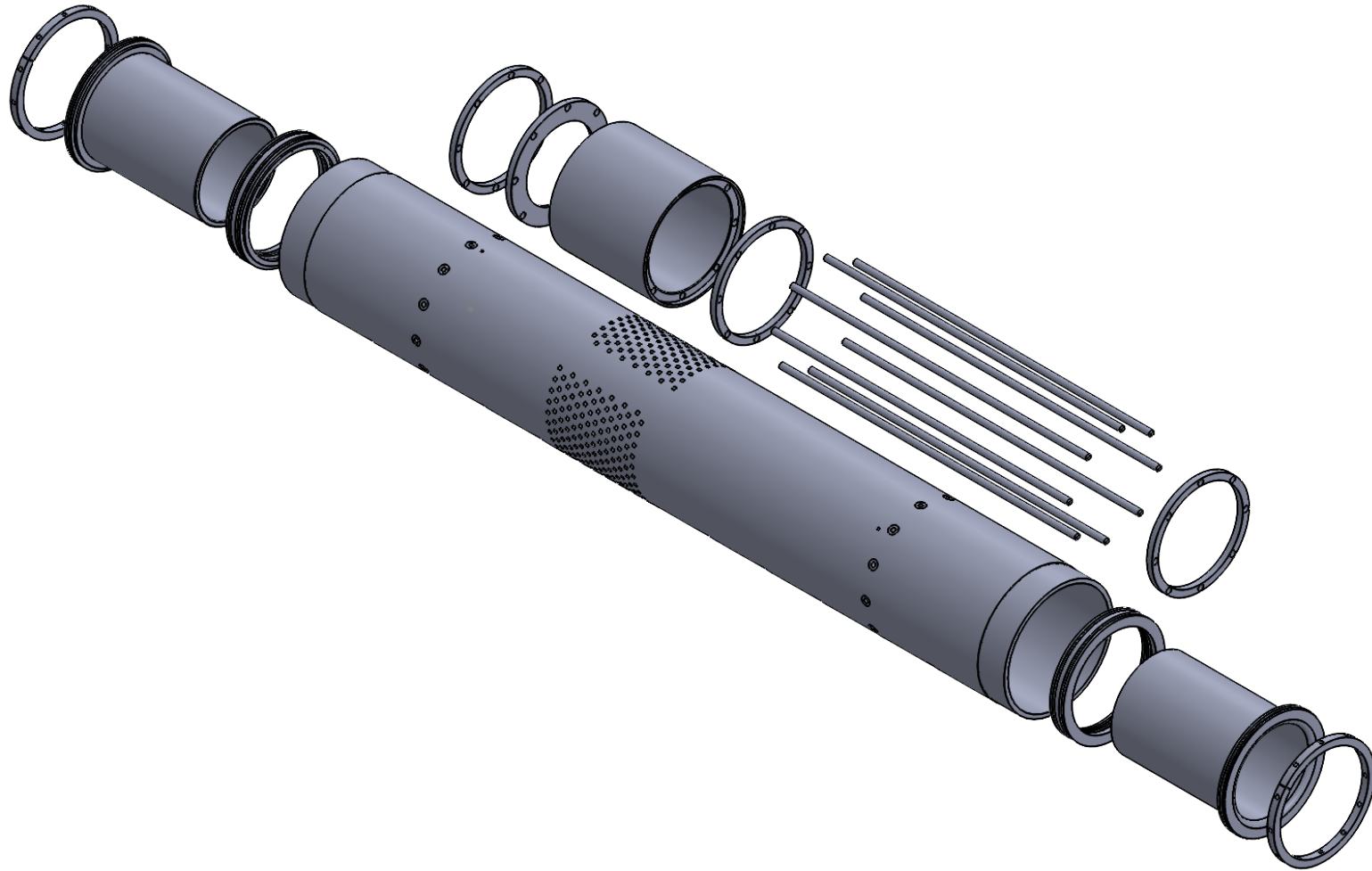
Mechanical Test Results						
Yield Strength:(PSI)	Tensile Strength:(PSI)	Elongation:(%) in 2" G.L	ROA:(%)	Hardness		
37000	83000	47.2		142 (BHN)		

Charpy Impact Energy									
Energy ()					Shear Area (%)				
Temp	1	2	3	Avg	1	2	3	Avg	

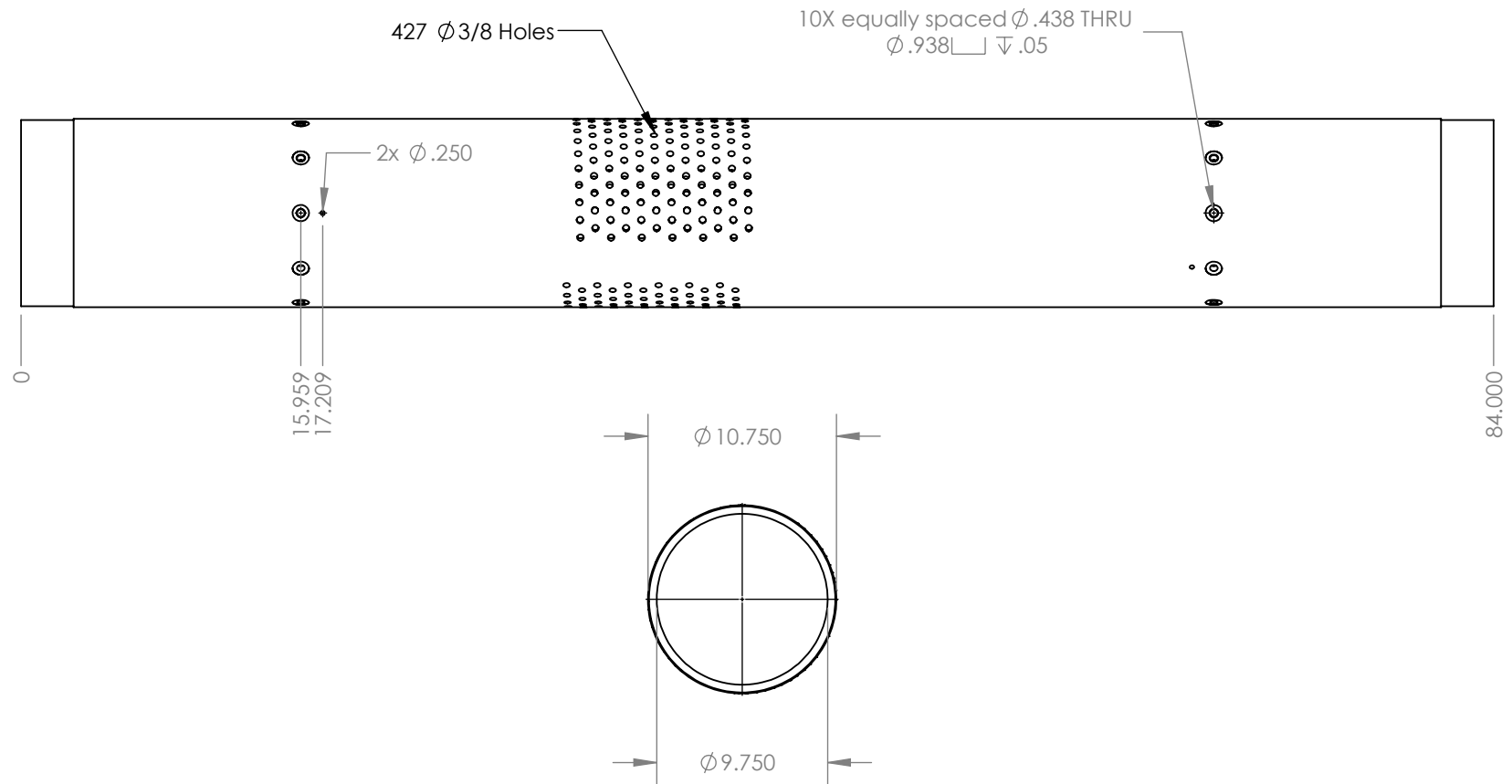
Eddy Current

The reported analysis and test results are certified to be the same as furnished to us by our supplier.
All records and test reports covering the above materials are on file at Scot Industries and may be examined by your personnel or by any agent authorized by you.

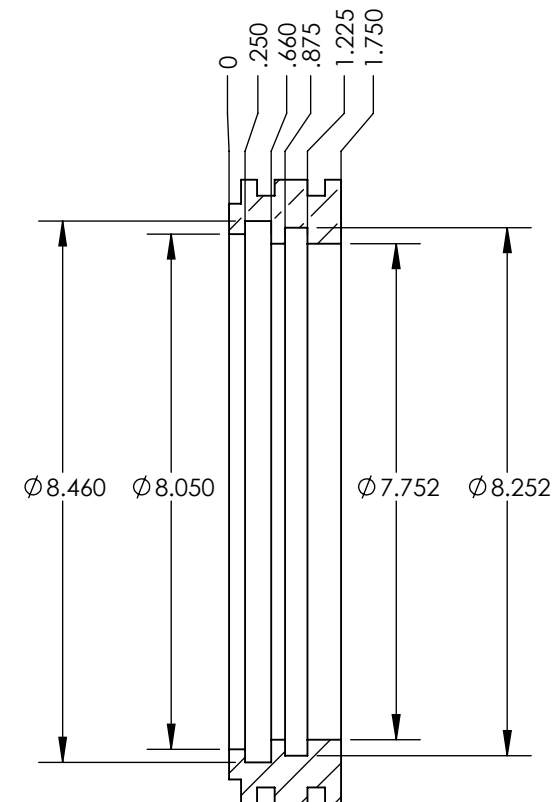
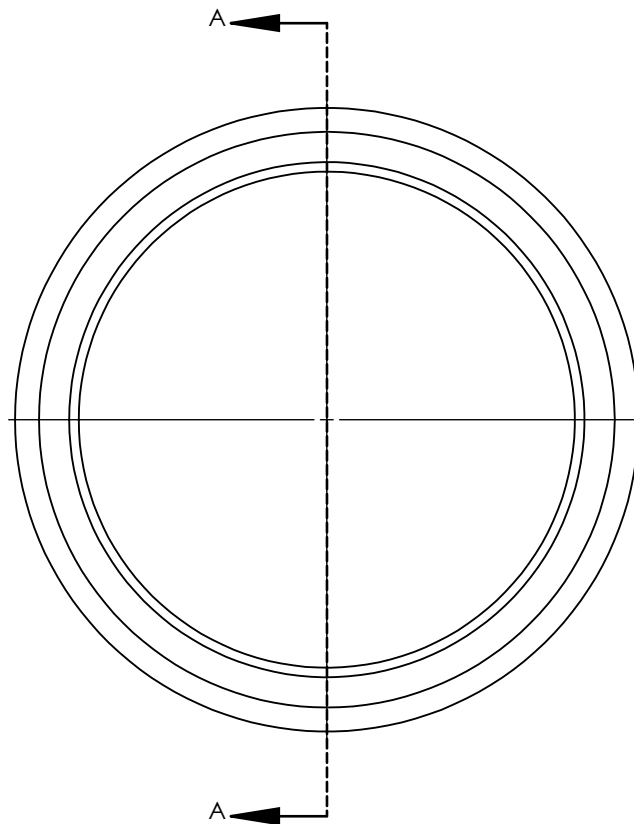
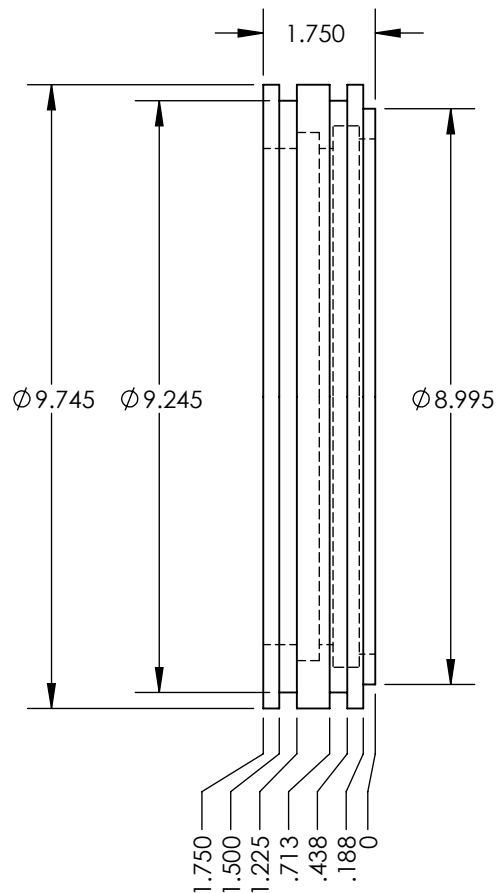

Quality Assurance



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	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ ANGULAR: MACH $\pm$ BEND $\pm$ TWO PLACE DECIMAL $\pm$ THREE PLACE DECIMAL $\pm$		DRAWN		COMPANY: DESCRIPTION:	
			CHECKED			
			ENG APPR.			
			MFG APPR.			
INTERPRET GEOMETRIC TOLERANCING PER:		Q.A.			SIZE PART NAME (DWG NO) REV Exploded Assembly	
MATERIAL		COMMENTS:				
FINISH						
DO NOT SCALE DRAWING						
		SCALE: 1:32 WEIGHT:			SHEET 1 OF 1	



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	DIMENSIONS ARE IN INCHES						DRAWN		
	TOLERANCES:						CHECKED		
	FRACTIONAL ±						ENG APPR.		
	ANGULAR: MACH ± BEND ±						MFG APPR.		
TWO PLACE DECIMAL ±						COMPANY:			
THREE PLACE DECIMAL ±						DESCRIPTION:			
			Q.A.			NEW			
			COMMENTS:						
INTERPRET GEOMETRIC TOLERANCING PER:									
MATERIAL									
FINISH									
DO NOT SCALE DRAWING									
						SCALE: 1:12 WEIGHT: SHEET 1 OF 1			



SECTION A-A
SCALE 1 : 3



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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

B.G.

DATE

Pasco Machine

518 W Columbia St.
Pasco, WA 99301 509-547-2448

COMPANY:

DESCRIPTION:

SIZE
A

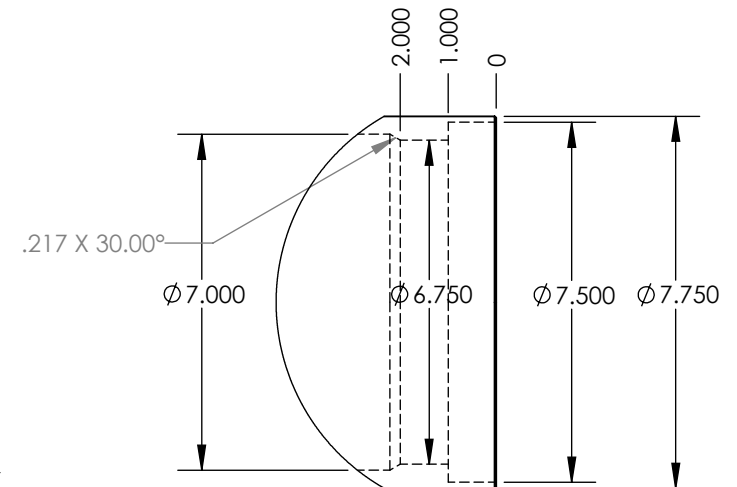
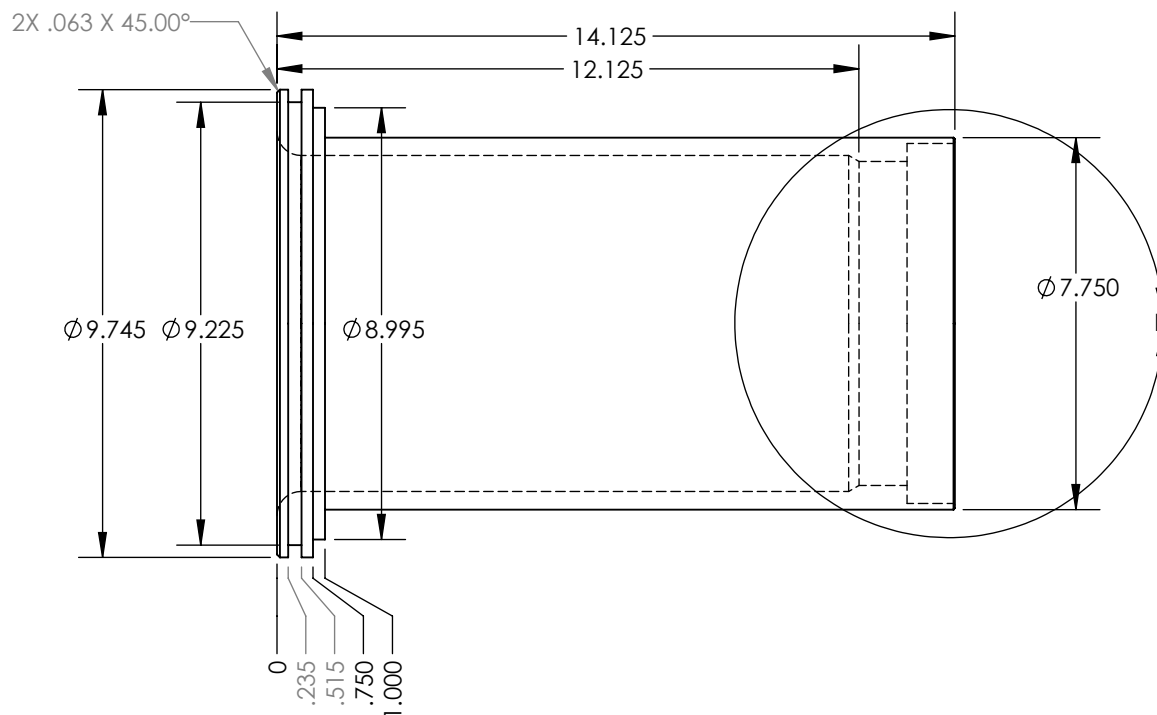
PART NAME (DWG NO)
Bronze Piston

REV

SCALE: 1:8

WEIGHT:

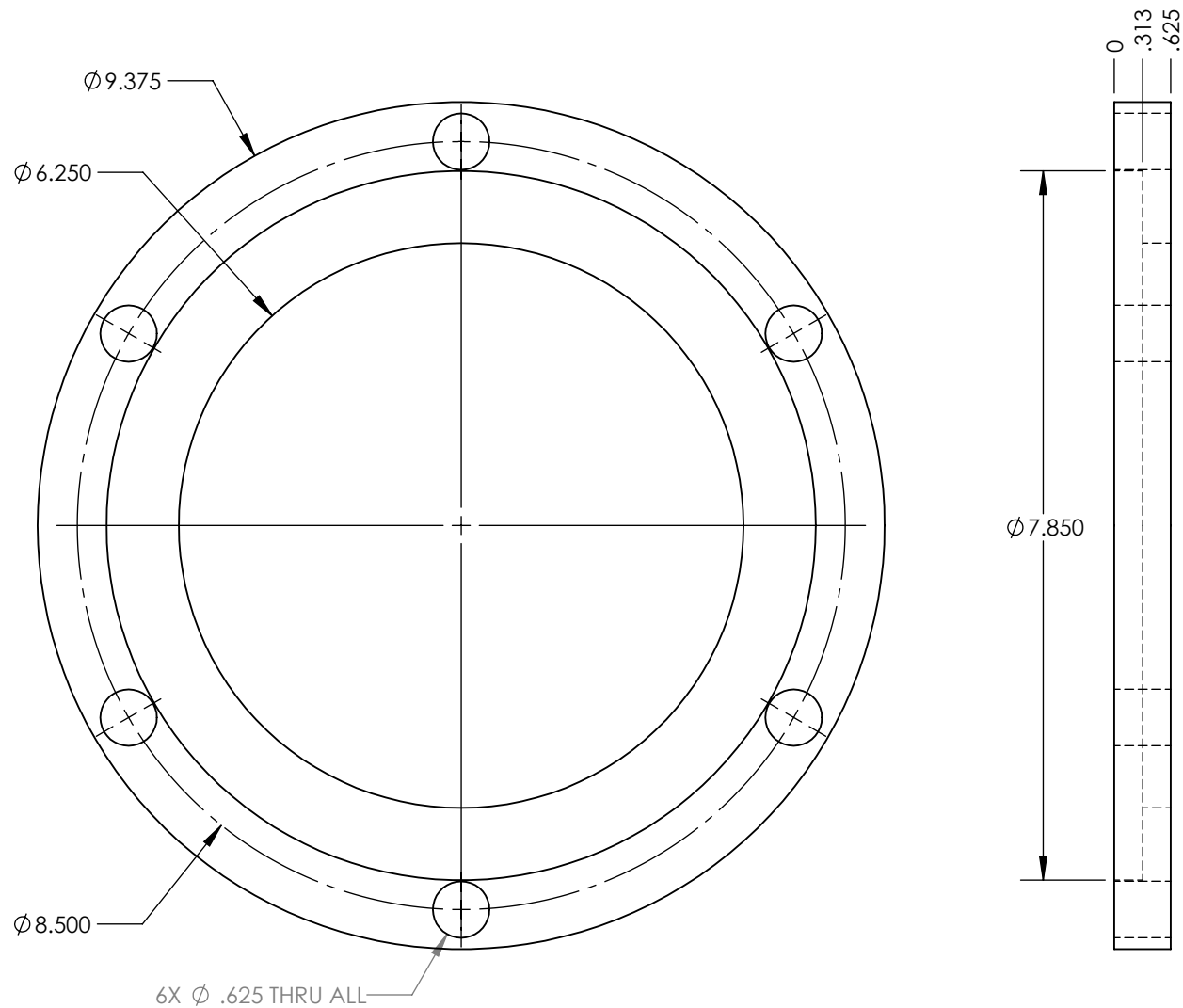
SHEET 3 OF 4



DETAIL D
SCALE 1 : 4

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	DIMENSIONS ARE IN INCHES	DRAWN	B.G.					
	TOLERANCES:	CHECKED				COMPANY:		
	FRACTIONAL ±	ENG APPR.				DESCRIPTION:		
	ANGULAR: MACH ± BEND ±	MFG APPR.						
TWO PLACE DECIMAL ±	Q.A.							
THREE PLACE DECIMAL ±	COMMENTS:							
	INTERPRET GEOMETRIC TOLERANCING PER:							
	MATERIAL							
	SST							
	FINISH							
	DO NOT SCALE DRAWING							

SIZE	PART NAME (DWG NO)	REV
A	C-bored Piston Gland	
SCALE: 1:8	WEIGHT:	SHEET 3 OF 4



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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm$
ANGULAR: MACH $\pm$ BEND $\pm$
TWO PLACE DECIMAL $\pm$
THREE PLACE DECIMAL $\pm$

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

B.G.

DATE

Pasco Machine

518 W Columbia St.
Pasco, WA 99301 509-547-2448

COMPANY:

DESCRIPTION:

SIZE
A

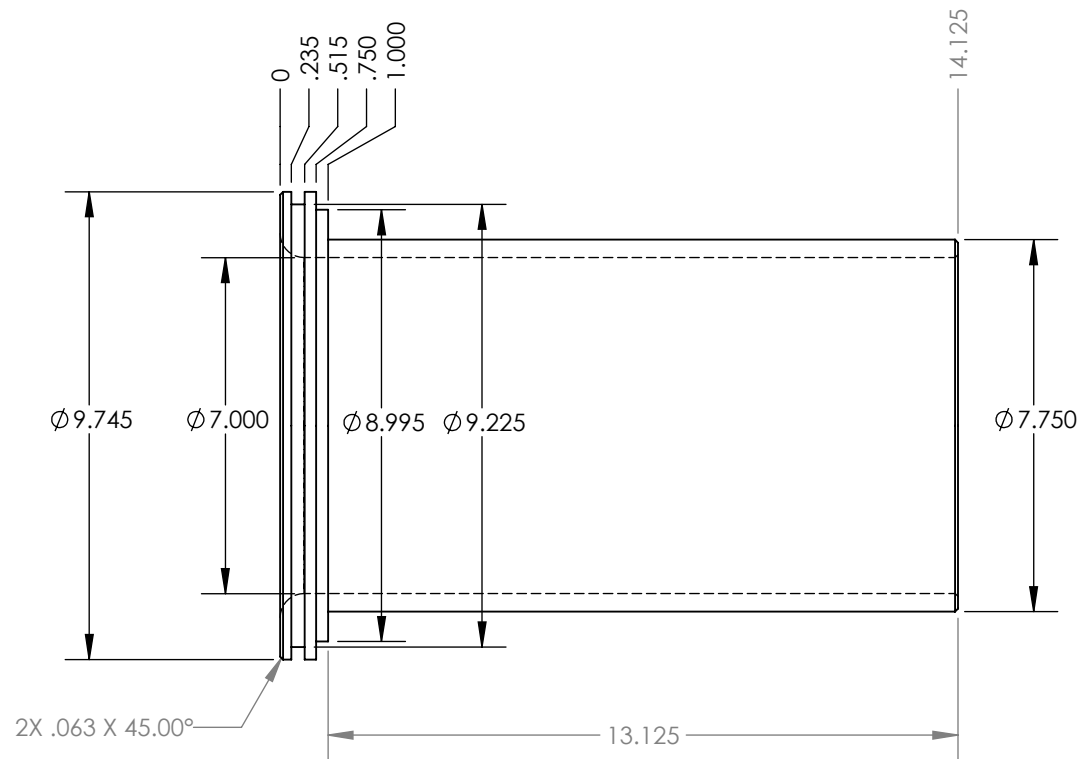
PART NAME (DWG NO)

REV

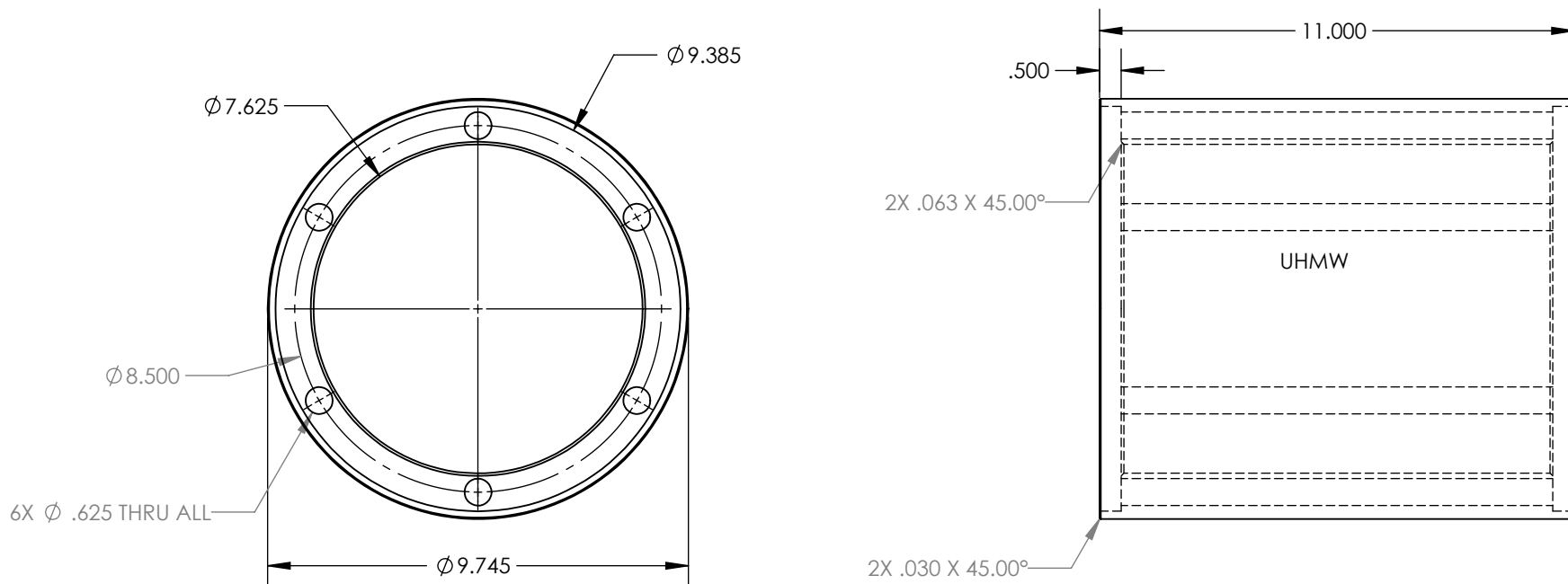
SCALE: 1:2

WEIGHT:

SHEET 3 OF 4



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	DIMENSIONS ARE IN INCHES	DRAWN	B.G.		COMPANY: DESCRIPTION:		
	TOLERANCES:	CHECKED					
	FRACTIONAL $\pm$	ENG APPR.					
	ANGULAR: MACH $\pm$ BEND $\pm$	MFG APPR.					
TWO PLACE DECIMAL $\pm$	Q.A.				SIZE A PART NAME (DWG NO) Piston Gland REV SCALE: 1:8 WEIGHT: SHEET 3 OF 4		
THREE PLACE DECIMAL $\pm$	COMMENTS:						
INTERPRET GEOMETRIC TOLERANCING PER:							
MATERIAL							
FINISH							
DO NOT SCALE DRAWING							



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	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±			DRAWN		B.G.					7/19/2017	
				CHECKED								
				ENG APPR.								
				MFG APPR.								
	INTERPRET GEOMETRIC TOLERANCING PER:			Q.A.						COMPANY: Kent Madison		
	MATERIAL UHMW			COMMENTS:								
	FINISH											
	DO NOT SCALE DRAWING			DESCRIPTION:								
SIZE A		PART NAME (DWG NO) UHMW 3R10 Valve				REV						
SCALE: 1:8		WEIGHT:		SHEET 3 OF 4								

Chief hydraulic motor, pump and tank code.

APB1HO8A0S10H-30



CHIEF AP

CHIEF™ AP series units are powered by vertically or horizontally mounted AC electric motors. Use the guide below to customize a AP series unit to meet your applications needs. Once you've marked the specs you require, you can email CustomQutoes@BaileyHydraulics.com or call us at 1-800-800-1810. You may also fax this sheet in at 1-800-800-1811. Be sure to include your contact information.

HYDRAULIC MOTOR, "M1" & HYRAULIC RESERVIOR, 'HR-1'



Motor		Pump	Circuit	Tank	Relief
AP	B 1 H	08	A2	S 10 H	2 1 In 100s of psi

HP	Phase/Volt	RPM	Max Pressure	Valve Type	Operator	Material	AP Size*	Position
A = 1/2 B = 1 C = 2 D = 3 E = 5	1 = 115v/230v* 3 = 230v/460v	L = 1725* H = 3450	08 = 0.049 4000 10 = 0.06 4000 12 = 0.073 4000 16 = 0.098 4000 20 = 0.122 4000 25 = 0.153 4000 31 = 0.189 3600 40 = 0.244 3000 50 = 0.305 2300 63* = 0.384 1800 80* = 0.488 1500	A = pumping station B = single acting C = double acting D = double acting tandem E = D03 Subplate	0 = none 1 = manual (115v) 2 = solenoid (115v) 3 = solenoid (230v) 4 = (12v) 5 = (24v)	P = poly S = steel	02 = 1 1/2 gal 03 = 3/4 gal 04 = 1 gal 05 = 1 1/2 gal 06 = 2 gal 08 = 2 1/2 gal 10 = 3 gal 12 = 4 gal 16 = 7 gal 20 = 10 gal 25 = 14 gal	H = horiz. V = vertical

HP = (PSI x GPM) / (1714 x 85%)

Not all combinations are possible. Reasonable effort has been made to make the code as intuitive as possible, however, the Bailey Power Unit Team may need to make adjustments and reserves the right to do so if the combination requested cannot be accomplished.

*A, B, C motor only *A, B motor only

* Only use with Low RPM Motor
CID = (GPM x 231) / (RPM x 90%)

*All unit combinations have relief valve.

*Nominal
Note: For continuous use and hard working applications a minimum 3:1 reservoir size to pump flow volume is recommended.

Custom Power Units Preconfigured and priced units

BAILEY NO.

300-65
300-80
300-67
300-80

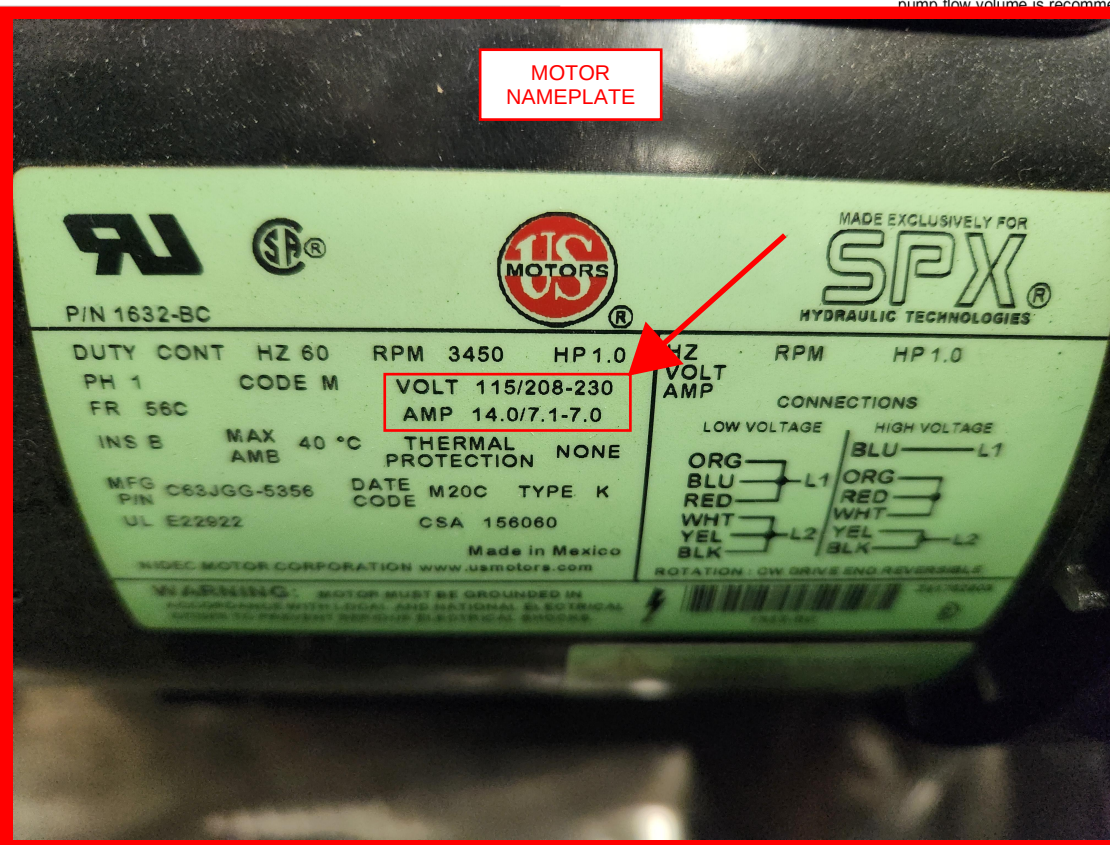
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300-80
300-66
300-45
300-51
300-80

300-30
300-81
300-41
300-20
300-55
300-20
300-81

Two

BAILEY NO.

300-20
300-20



PRICE EACH

882.00
899.00

687.00
665.00
835.00
880.00
687.00
675.00
904.00
960.00

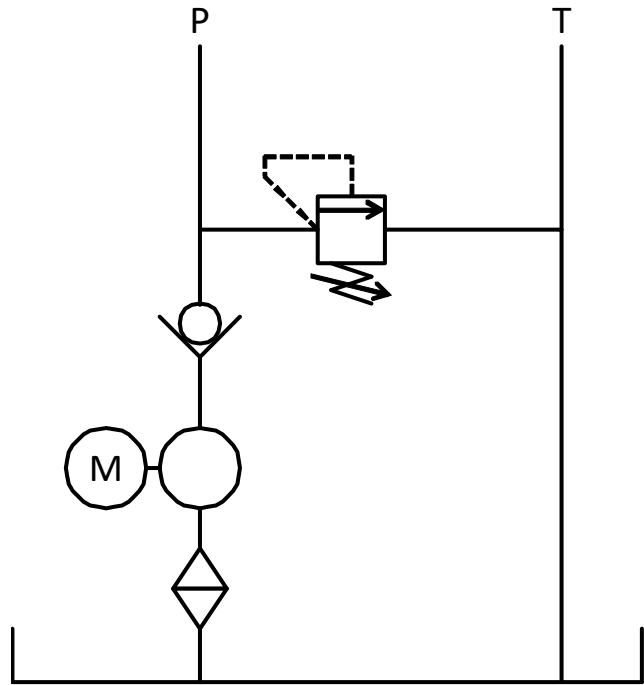
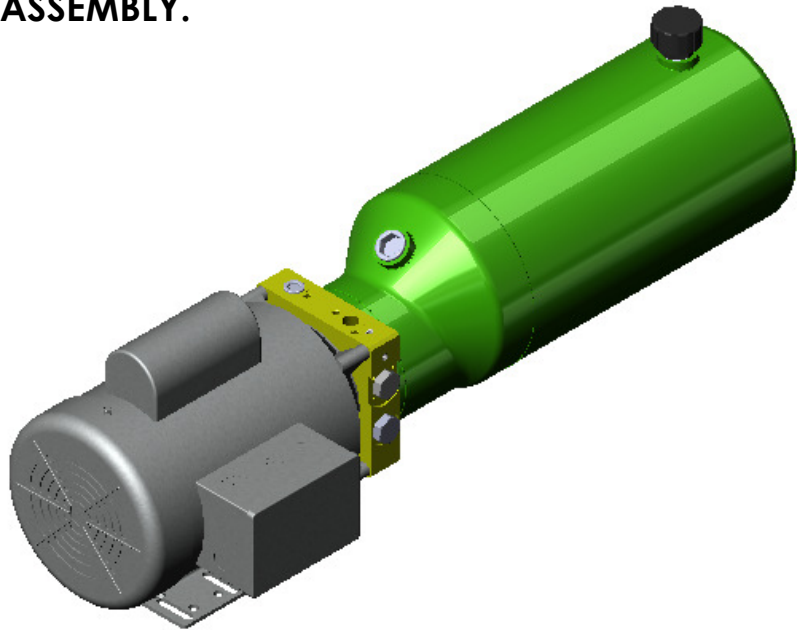
895.00
746.00
899.00
970.00
961.00
972.00

PRICE EACH

892.00
1185.00

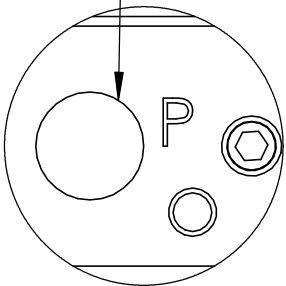
800-800-1811

NOTE: BAILEY INTERNATIONAL LLC DOES NOT MANUFACTURE ALL OF THE COMPONENTS USED IN THIS ASSEMBLY, THEREFORE DIMENSIONS AND TOLERANCES ARE SUBJECT TO CHANGE WITHOUT NOTICE BAILEY INTERNATIONAL RESERVES THE RIGHT TO MODIFY OR SUBSTITUTE ANY COMPONENT IN THIS ASSEMBLY.

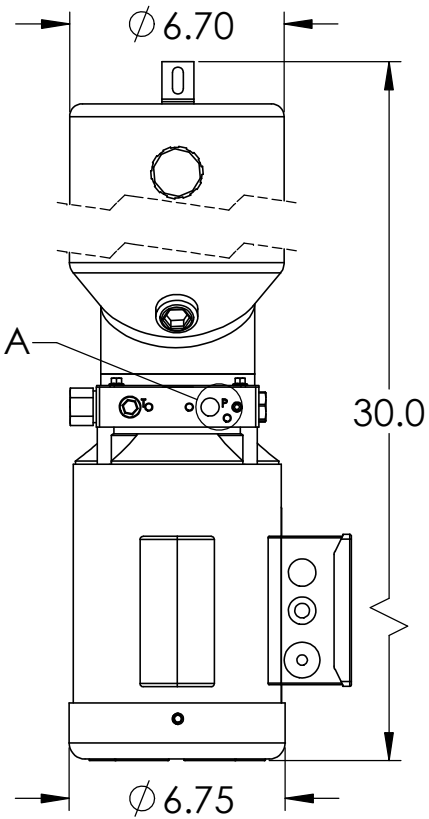


SCHEMATIC

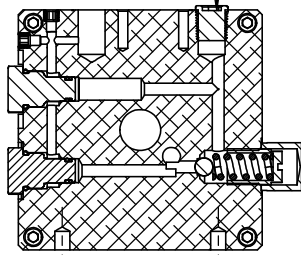
3/8 NPT PRESSURE PORT



DETAIL A
SCALE 2 : 1

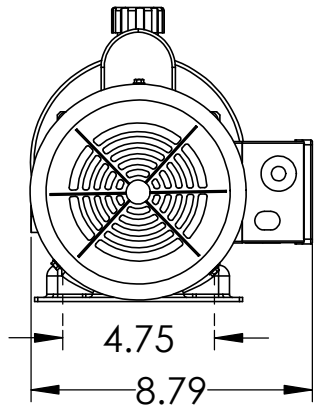
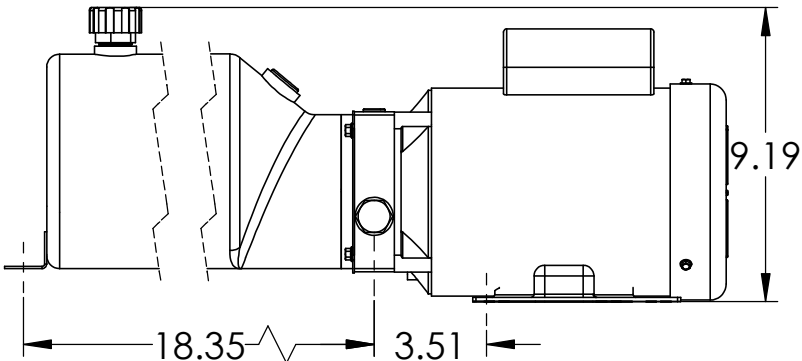


3/8 NPT AUX RETURN PORT



END HEAD
SECTION B-B
SCALE 1 : 2

3.25
3/8 UNC-2B



XXXXX SPECIFICATIONS AND MACHINE NOTES: XXXXX

AC 0.6GPM@2100PSI PUMPING STATION
MOTOR: AC 1 HP, SINGLE PHASE, 115/230V 3450 RPM
PUMP: 0.8 CC
RESERVOIR: STEEL 2.5 GALLON (NOMINAL)
VALVE: INTEGRATED RELIEF AND CHECK
DIRECTIONAL VALVE: N/A PUMPING STATION ONLY
ACCESSORIES: 100 MESH STRAINER, FILLER BREATHER

Tolerances

DIMENSIONS ARE IN INCHES
ANGULAR: MACH $\pm 2^\circ$
X.X ± 0.1
X.XX ± 0.02
X.XXX ± 0.005
NON-MACHINED SURFACES $\pm .060$
BURNOUT SURFACES $\pm .120$

Yellow
Sheet

Proto

Detailed

Wgt. (lbs)

41

Bailey
Part#

300579

Rev.

0

Paint

Black

Customer
Name

Date

Initial

Smart
Part#

APB1H08A0S10H-30

App.



Bailey International LLC
2527 Westcott Blvd.
Knoxville, TN 37931
TEL: 865-588-6000
FAX: 865-588-6001
www.bailey.net

Rev

Loc

Date

Comments

Initial



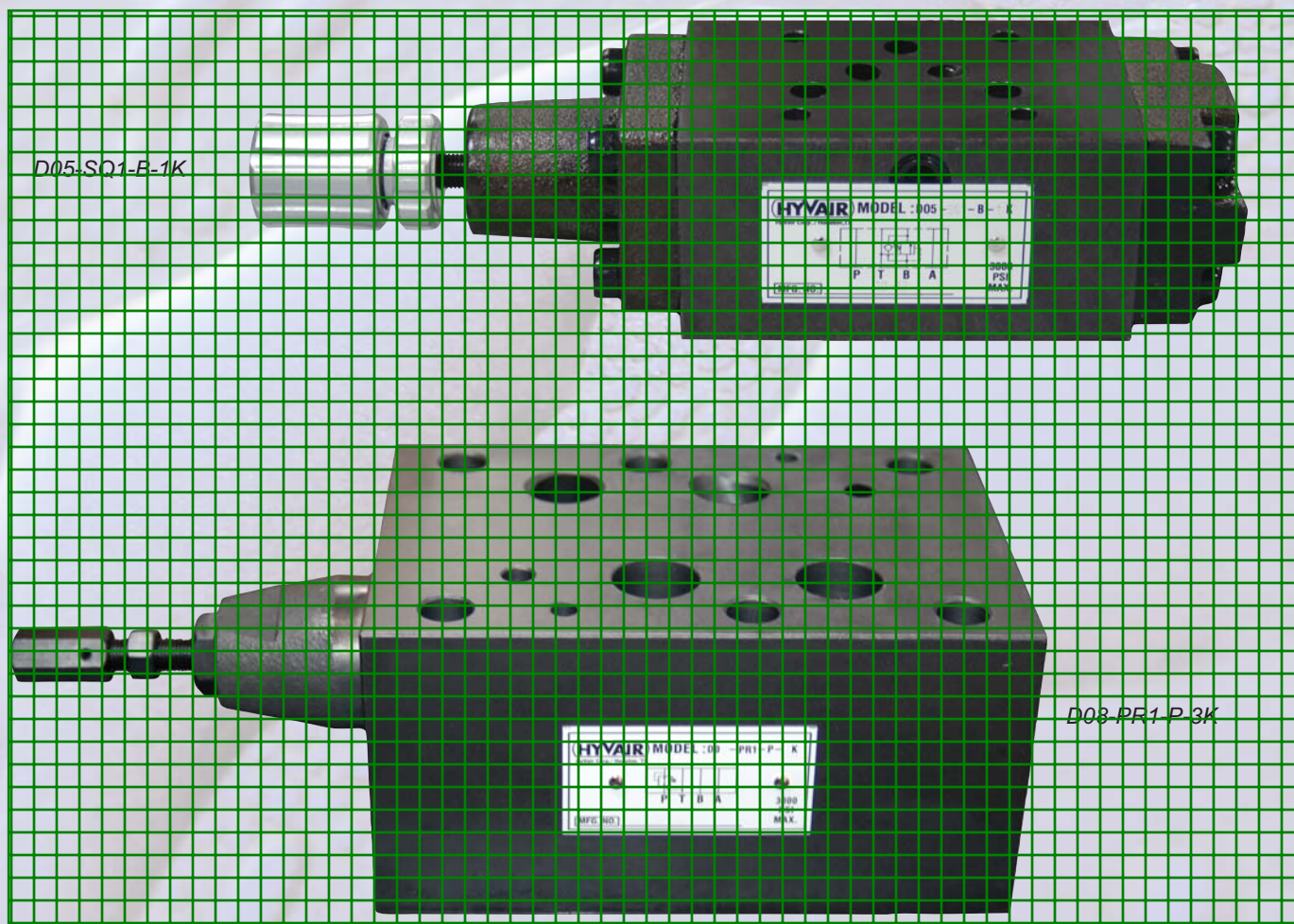
INDUSTRIAL FLUID POWER COMPONENTS
AND SYSTEMS

D03, D05 & D08 SERIES

Modular/ Stackable Valves



D03-DPC1-AB70



D05-SQ1-E-1K

D08-PF1-P-3K



D03, D05 & D08 Series

Modular/ Stackable Valves

Features

1. **Rugged Steel Body Designs:** Designed for high cycle and quick response applications
2. **Uniform Height:** Valve body thickness is the same for each series and provides a clean, neat uniform appearance. This also reduces the number of bolt kits.
3. **Better Performance:** Modular valving eliminates leaky connections, reduces plumbing costs and places controls together.
4. **Space Savings:** Manifold mounted control circuits greatly reduce space requirements from conventional line mounted valves.
5. **Adjustment:** Hand knobs with locknuts provided standard- tools are not required for adjustments.

D08-DPC1-AB



D05-POR1-PT



D03-FC1-AB-MO

Specifications

Size	D03	D05	D08
Mounting Surfaces: General Patterns			
Mounting Surface	NFPA	T3.5.1.MR1-D05	T3.5.1.MR1-D08
	ISO	ISO 4401-05	ISO 4401-08
Nominal Flow Rates*	5 gpm (19 lpm)	12 gpm (45 lpm)	50 gpm (190 lpm) 35 gpm (130 lpm) for PK1 & DPC1
Maximum Pressure	3000 psi (210 bar)		
Operating Conditions	Working Temperature	40- 160° F (5- 70°C)	
	Operating Viscosity	80- 300 SUS (17- 65 cSt)	
	Max. Start-up Viscosity	1500 SUS (315 cSt)	
	Filtration	25 micron or less, (ISO 18/15)	
	Recommended Fluids	Petroleum Based Fluids- ISO VG32-68, Most Vegetable Oils	

Ordering Information

D03 - PR 1 - P - 1K - H

Size	Function	Design Code	Location/ Flow Path	Function
D03	C = Check		A = A port	omit = Not Applicable
D05	CB = Counter Balance		B = B port	7 = 7 psi cracking
D08	DPC = Double Pilot Check		AB = A and B	70 = 70 psi cracking
	DR = Direct Acting Relief		P = P port	.5K = Adj. 50-500
	EFC = Elect. Prop. Flow Control		T = T port	1K = Adj. 120-1000
	FC = Flow Control		PT = P to T port	3K = Adj. 500-3000
	N = Needle Valve		AT = A to T port	MI = Meter in
	NC = Needle w/ Check		BT = B to T port	MO = Meter out
	PCFC = Press Comp F. C.		ATBT = A to T and B to T port	
	POR = Pilot Operated Relief		ABBA = A to B and B to A	
	PR = Press Reducing			
	SQ = Sequence			
	SPC = Single Pilot Check			

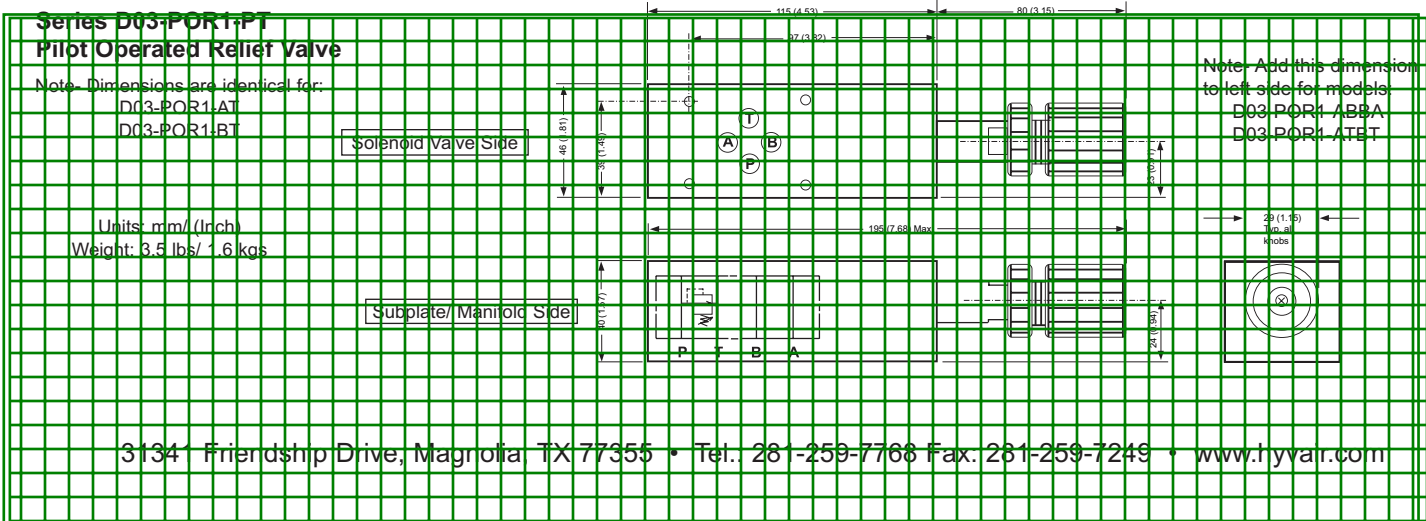
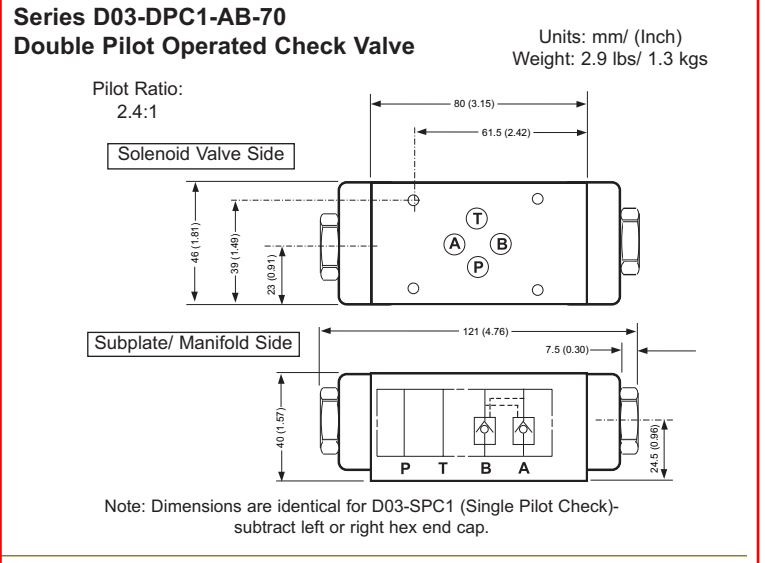
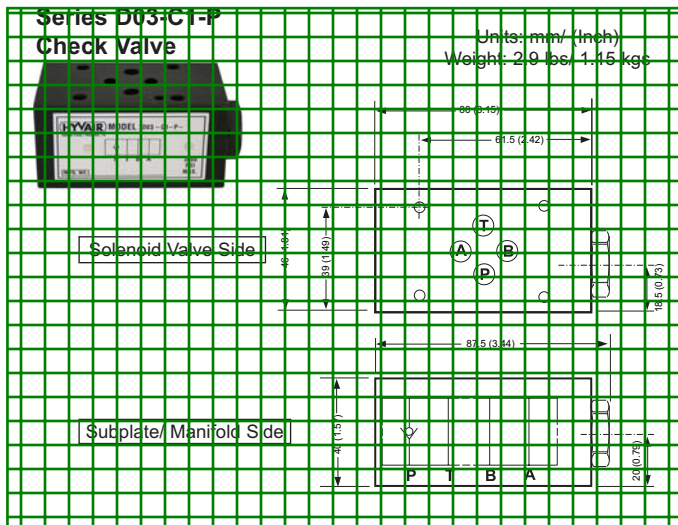
Hex Adjuster:
(Hex size) 9/16" U.S.
14 mm Metric

Hex Adjuster (No Knob)

D03-N1-P

Shown with optional hex adjustment.

Dimensional Data





860-434-2222



[HOME](#)

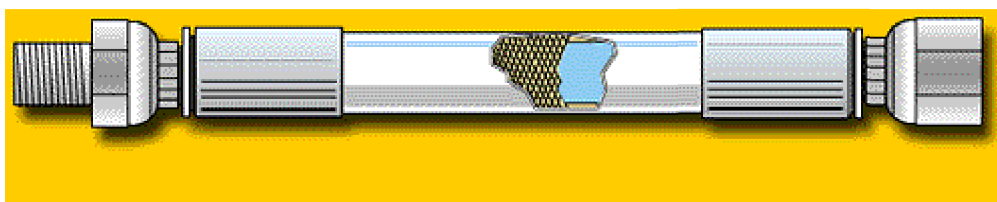
[ABOUT](#)

[HOSE SOLUTIONS](#) ▼

[HEATED HOSE](#)

[CONTACT](#)

SCT Series High Pressure/Temperature Silicone Covered Teflon® Hose



KleenFLO (US Patented 6481466) is made specifically to meet UL-1889 requirements for commercial filters of cooking hot oil. This SCT Series Hot Oil Hose is a smooth bore teflon core, stainless steel reinforcement hot oil hose with a virgin white silicone cover. All hot fluid transfer hose models handle up to 500°F (260°C) and can be rated for vacuum applications if specified. All fluid transfer models feature excellent flexibility and can be operated in continuous movement conditions. Our state-of-the art extrusion process provides a uniform bonded white (or red) virgin silicone exterior cover resulting in a smaller outside diameter...which translates into a tighter bend radius.



Operating Pressure

- 1,500 psi operating pressure
- 6,000 psi burst pressure

Sizes Available: 0.500" ID in stock, .312" ID, .405" ID & .625" ID available. Special sizes available upon request.

Construction



860-434-2222



[HOME](#)

[ABOUT](#)

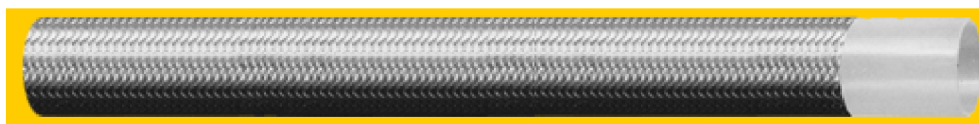
[HOSE SOLUTIONS](#) ▾

[HEATED HOSE](#)

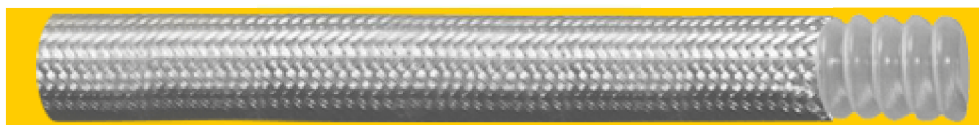
[CONTACT](#)

SmoothFlo Teflon Hose

KleenFLO is made specifically to meet UL-1889 requirements for commercial filters of cooking hot oil. For all of our teflon hose selections, we offer complete fabrication and hydro-testing capabilities. Additionally, we offer rapid delivery on our products.



Smooth Bore



Convuluted

□ **SERIES MP – MEDIUM PRESSURE SMOOTH BORE TEFLON HOSE**

□ **SERIES MPX – EXTREME FLEXIBILITY SMOOTH BORE TEFLON HOSE**

□ **SERIES HP – HIGH PRESSURE SMOOTH BORE TEFLON HOSE**

Specifications

Part#	Part#	Hose	Avg. ID	Avg. O.D.	Operating PSI	Burst PSI
Conductive	Non-Conductive	Size				
SMP-C03	SMP-NC03	3/16	.125	.250	3,000	12,000
SMP-C04	SMP-NC04	1/4	.187	.312	3,000	12,000
SMP-C05	SMP-NC05	5/16	.250	.375	3,000	12,000
SMP-C06	SMP-NC06	3/8	.312	.445	2,500	10,000
SMP-C07	SMP-NC07	7/16	.375	.503	2,250	9,000

SMP-C08	SMP-NC08	1/2	.405	.549	2,000	8,000
SMP-C10	SMP-NC10	5/8	.500	.648	1,500	6,000
SMP-C12	SMP-NC12	3/4	.625	.778	1,200	4,800
SMP-C14	SMP-NC14	7/8	.750	.865	1,100	4,400
SMP-C16	SMP-NC16	1	.875	1.030	1,000	4,000
SMP-C18	SMP-NC18	1-1/8	1.000	1.135	900	3,600
SMP-C20	SMP-NC20	1-1/4	1.125	1.290	750	3,000

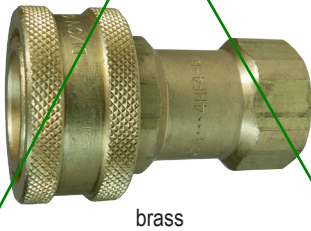
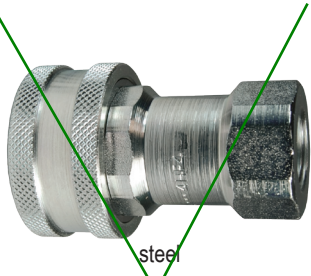
H-Series Hydraulic Couplings

**FEMALE
HYDRAULIC HOSE
FITTING**

Features:

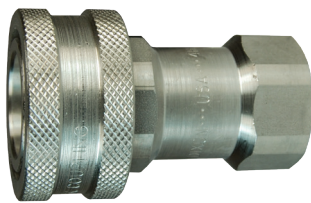
- poppet style shut-off valves in both coupler and plug
- designed to prevent fluid loss when disconnected
- meets dimensional requirements of **ISO 7241 Series B**
- interchangeable with Parker-Hannifin 60 series, see Hydraulic Profile Chart on page H-6
- Buna-N seals standards. Contact Dixon® for additional seal material options.
- Contact Dixon® for pressure ratings and other technical information.

H-Series ISO-B Industrial Interchange Poppet Valve Female Threaded Couplers



Body Size	Threads	Previous Part #	Steel Part #	Price/E	Previous Part #	Brass Part #	Price/E
1/8"	1/8" - 27 NPTF	---	1HF1	\$24.33	---	1HF1-B	\$24.19
1/8"	7/16" - 20 ORB	---	1HOF2	30.12	---	---	---
1/4"	1/4" - 18 NPTF	16-263	2HF2	23.16	B16-263	2HF2-B	22.51
1/4"	1/4" - 19 BSPP	---	2HBF2	25.48	---	2HBF2-B	24.76
1/4"	9/16" - 18 ORB	---	2HOF3	27.80	---	---	---
3/8"	3/8" - 18 NPTF	16-363	3HF3	28.95	B16-363	3HF3-B	31.29
3/8"	3/8" - 19 BSPP	---	3HBF3	33.30	---	3HBF3-B	36.02
1/2"	1/2" - 14 ORB	---	3HOF4	37.55	---	---	---
1/2"	1/2" - 14 NPTF	16-463	4HF4	36.48	B16-463	4HF4-B	41.08
1/2"	1/2" - 14 BSPP	---	4HBF4	45.38	---	4HBF4-B	47.66
3/4"	1/2" - 14 ORB	---	4HOF5	48.55	---	---	---
3/4"	3/4" - 14 NPTF	16-663	6HF6	58.75	B16-663	6HF6-B	60.03
3/4"	3/4" - 14 BSPP	---	6HBF6	69.49	---	6HBF6-B	87.79
1"	1-1/16" - 12 ORB	---	6HOF6	75.20	---	---	---
1"	1" - 11 1/4 NPTF	16-863	8HF8	97.08	B16-863	8HF8-B	110.20
1"	1" - 11 BSPP	---	8HBF8	97.98	---	8HBF8-B	110.20
1"	1-5/16" - 12 ORB	---	8HOF8	110.03	---	---	---

Body Size	Threads	Previous Part #	303 Stainless Steel Part #	Price/E	316 Stainless Steel Part #	Price/E
1/8"	1/8" - 27 NPTF	---	1HF1-S	\$72.39	1HF1-SS	\$134.75
1/4"	1/4" - 18 NPTF	SS16-263	2HF2-S	62.72	2HF2-SS	150.98
1/4"	1/4" - 19 BSPP	---	2HBF2-S	62.72	2HBF2-SS	150.98
3/8"	3/8" - 18 NPTF	SS16-363	3HF3-S	88.13	3HF3-SS	201.61
3/8"	3/8" - 19 BSPP	---	3HBF3-S	88.13	3HBF3-SS	201.61
1/2"	1/2" - 14 NPTF	SS16-463	4HF4-S	144.79	4HF4-SS	282.72
1/2"	1/2" - 14 BSPP	---	4HBF4-S	144.79	4HBF4-SS	318.81
3/4"	3/4" - 14 NPTF	SS16-663	6HF6-S	227.26	6HF6-SS	427.09
3/4"	3/4" - 14 BSPP	---	6HBF6-S	227.26	6HBF6-SS	504.53
1"	1" - 11 1/4 NPTF	SS16-863	8HF8-S	362.87	8HF8-SS	649.66
1"	1" - 11 BSPP	---	8HBF8-S	362.87	8HBF8-SS	649.66

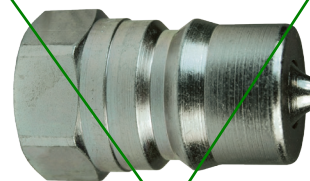


H-Series ISO-B Industrial Interchange Female Threaded Plugs

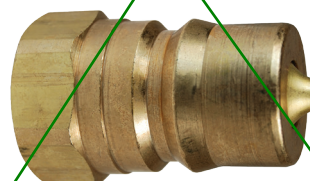
Body Size	Threads	Previous Part #	Steel Part #	Price/E	Previous Part #	Brass Part #	Price/E
1/8"	1/8" - 27 NPTF	---	H1F1	\$9.85	---	H1F1-B	\$9.57
1/8"	7/16" - 20 ORB	---	H1OF2	12.16	---	---	---
1/4"	1/4" - 18 NPTF	17-263	H2F2	10.95	B17-263	H2F2-B	10.64
1/4"	1/4" - 19 BSPP	---	H2BF2	12.74	---	H2BF2-B	12.38
1/4"	9/16" - 18 ORB	---	H2OF3	12.98	---	---	---
3/8"	3/8" - 18 NPTF	17-363	H3F3	12.20	B17-363	H3F3-B	15.76
3/8"	3/8" - 19 BSPP	---	H3BF3	16.68	---	H3BF3-B	19.14
3/8"	3/4" - 16 ORB	---	H3OF4	22.01	---	---	---
1/2"	1/2" - 14 NPTF	17-463	H4F4	14.36	B17-463	H4F4-B	18.57
1/2"	1/2" - 14 BSPP	---	H4BF4	18.44	---	H4BF4-B	18.57
1/2"	7/8" - 14 ORB	---	H4OF5	24.33	---	---	---
3/4"	3/4" - 14 NPTF	17-663	H6F6	28.36	B17-663	H6F6-B	31.56
3/4"	3/4" - 14 BSPP	---	H6BF6	33.59	---	H6BF6-B	36.98
1"	1-1/16" - 12 ORB	---	H6OF6	37.07	---	---	---
1"	1" - 1 1/2 NPTF	17-863	H8F8	40.54	B17-863	H8F8-B	48.40
1"	1" - 11 BSPP	---	H8BF8	44.01	---	H8BF8-B	51.76
1"	1-5/16" - 12 ORB	---	H8OF8	67.76	---	---	---

**MALE
HYDRAULIC
HOSE FITTING**

Hydraulic Fittings

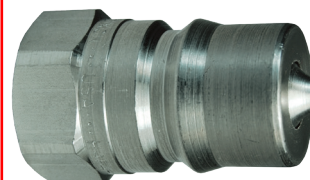


steel



brass

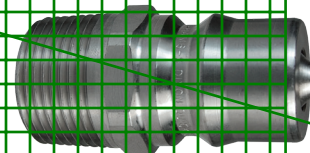
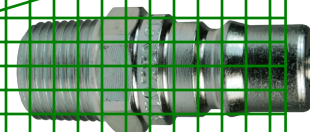
Body Size	Threads	Previous Part #	303 Stainless Steel Part #	Price/E	316 Stainless Steel Part #	Price/E
1/8"	1/8" - 27 NPTF	---	H1F1-S	\$23.16	H1F1-SS	\$57.75
1/4"	1/4" - 18 NPTF	SS17-263	H2F2-S	26.14	H2F2-SS	69.34
1/4"	1/4" - 19 BSPP	---	H2BF2-S	26.14	H2BF2-SS	69.34
3/8"	3/8" - 18 NPTF	SS17-363	H3F3-S	42.95	H3F3-SS	102.32
3/8"	3/8" - 19 BSPP	---	H3BF3-S	42.95	H3BF3-SS	102.32
1/2"	1/2" - 14 NPTF	SS17-463	H4F4-S	68.05	H4F4-SS	132.33
1/2"	1/2" - 14 BSPP	---	H4BF4-S	70.08	H4BF4-SS	149.03
3/4"	3/4" - 14 NPTF	SS17-663	H6F6-S	103.67	H6F6-SS	186.47
3/4"	3/4" - 14 BSPP	---	H6BF6-S	103.67	H6BF6-SS	250.45
1"	1" - 1 1/2 NPTF	SS17-863	H8F8-S	164.21	H8F8-SS	294.75
1"	1" - 11 BSPP	---	H8BF8-S	179.54	H8BF8-SS	358.51



303 stainless

H-Series ISO-B Industrial Interchange Male Threaded Plugs

Body Size	Threads	Steel Part #	Price/E
1/2"	3/8" - 18 NPTF	H2M3	\$14.96
Body Size	Threads	303 Stainless Steel Part #	Price/E
1/2"	3/4" - 14 NPTF	H4M6-S	\$100.65



Linear Motion Conductive Plastic Potentiometer

Series RC35



- Dual Rod End Bearings
- 50 to 750mm stroke lengths
- > 25 Million Operations Life
- IP65 Protection Grade
- Heavy Duty
- 5 m/s Displacement Speed

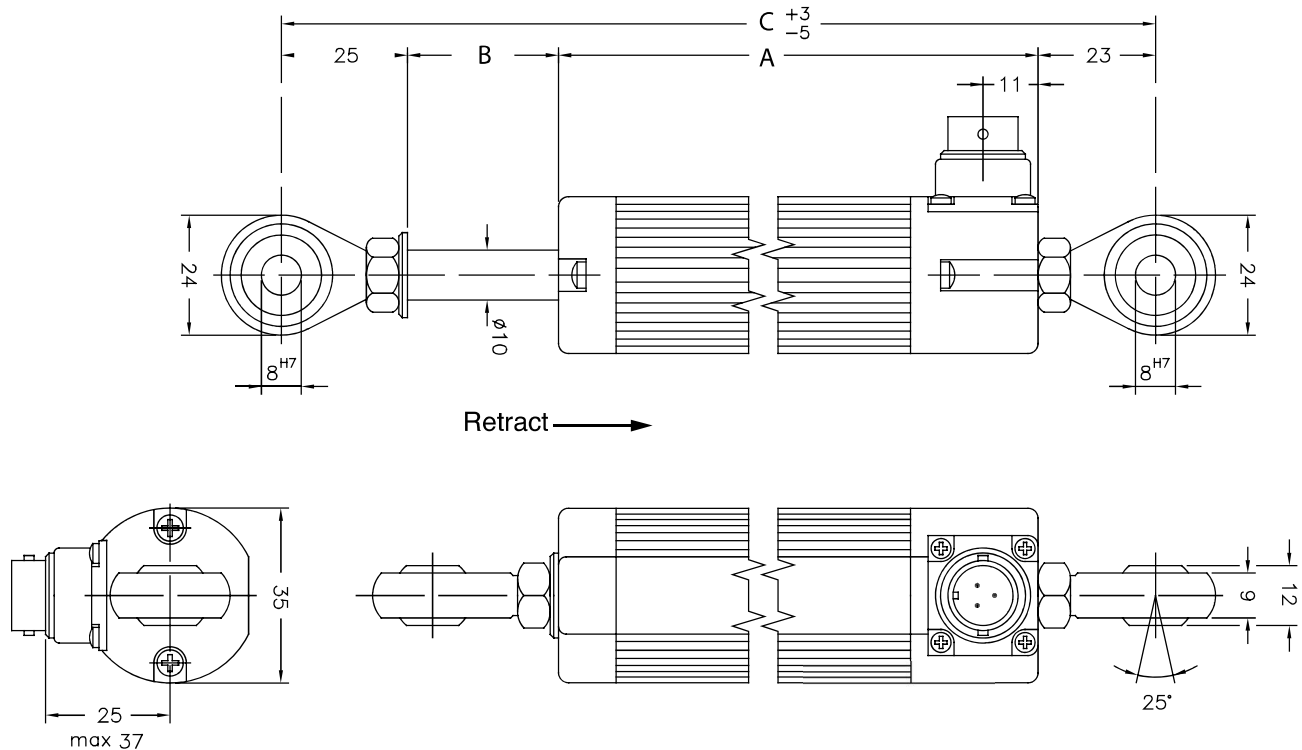
Electrical Data (Note 1)	RC35 -	50	100	130	150	175	200	225	275	300	360	375	400	450	500	600	750
Electrical Stroke (mm ±1)		50	100	130	150	175	200	225	275	300	360	375	400	450	500	600	750
Resistance Value										5kΩ							10kΩ
Resistance Tolerance										±20%							
Independent Linearity Tolerance										±0.05%							
Power (@ 40°C)										3W							
Max. Operating Voltage										60V							
Resolution										Essentially infinite							
Temperature Coefficient Resistance										400 ppm/°C							
Temperature Coefficient Voltage Divider										1.5 ppm/°C							
Insulation Resistance										> 100M Ω at 500VDC							
Dielectric Strength										< 100 μA at 500V~, 50Hz, 2s, 1 bar							
Maximum Wiper Current										10mA							
Recommended Wiper Current										< 0.1μA (voltage divider circuit)							

Mechanical Data (Note 1)	RC35 -	50	100	130	150	175	200	225	275	300	360	375	400	450	500	600	750
Mechanical Stroke (mm ±1)		59	109	139	159	184	210	235	285	310	370	386	412	463	518	619	772
Max. Operating Friction										≤ 15N							
Max. Displacement Speed										≤ 5 m/s							
Life Expectancy										> 25,000,000 reciprocating motions							
Operating Temperature										-30°C to +100°C							
Storage Temperature										-45°C to +120°C							
Vibration										5 to 2,000Hz. Amax = 0.75mm; amax = 20G							
Shock										50G, 11ms							
Protection Grade										IP65							
Housing Material										Anodized aluminum, Nylon 66 G25							
Shaft Material										Stainless steel AISI 303							
Mounting										Ball joints (rod end bearings)							

Note 1: Customers should test and verify device performance in any given application. General specifications values are measured at temperatures of +15°C ~ +35°C. Specifications are subject to change without notice.

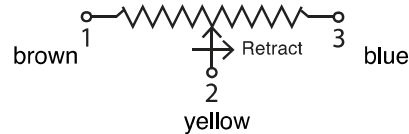
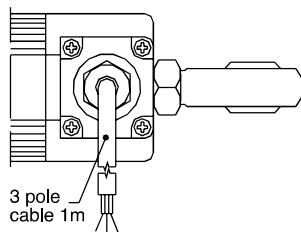
Dimensions (mm)

Series RC35

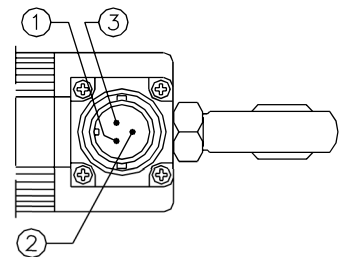


Stroke Length	50	100	130	150	175	200	225	275	300	360	375	400	450	500	600	750
Housing Length (A)	179	229	259	279	304	330	355	405	430	496	512	538	589	664	765	918
Mechanical Stroke (B)	59	109	139	159	184	210	235	285	310	370	386	412	463	518	619	772
Ball Joint Spacing (min.) (C)	231	281	311	331	356	382	407	457	482	544	564	590	641	716	817	970

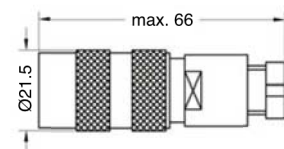
Cable Version



Connector Version



SW61 IP67 (DIN 43322)





PRESSURE
TRANSMITTER,
"PT-O" & "PT-C"

KELLER

HIGH ACCURACY PRESSURE TRANSMITTER

VALUELINE

DURABLE WITH INDUSTRY STANDARD ANALOG OUTPUTS AND CUSTOM RANGES

The Valueline by Keller America provides standard features that far exceed those of comparably priced transmitters by combining proven piezoresistive silicon sensor technology with Keller's state-of-the-art signal conditioning circuitry. The result is outstanding $\pm 0.25\%$ FS standard ($\pm 0.1\%$ optional) Total Error Band (TEB)₄ accuracy over a wide compensated temperature range.

The ability of the Valueline to provide this level of sustained performance over a wide range of operating conditions makes it ideally suited to pressure monitoring applications such as tank level measurement, pump control, and VFD control. Plus, guaranteed lightning protection makes this transmitter ideal for installation in areas prone to chronic damage due to transients caused by lightning.

For more information on the Valueline, or any other Keller product, please contact Keller America, or view the entire Keller catalog at <http://www.kelleramerica.com/datasheets.html>.

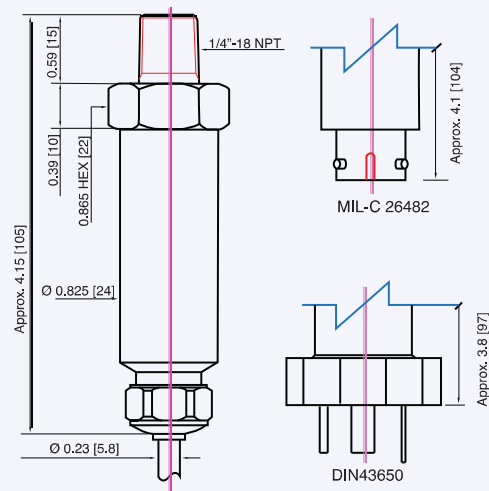
FEATURES

- 4...20mA models include guaranteed lightning protection at no additional cost.
- 16-bit internal digital error correction for cost-effective low Total Error Band (TEB)₄
- 316L stainless steel construction
- 2-year warranty covers defects in materials and workmanship.
- Standard outputs simplify interface to controls, data collection, and telemetry systems.
- Various electrical connections for easy integration into new and existing systems.
- Cabled versions are rated IP68 and suitable for submersion.
- Built in the U.S.A. ARRA Section 1605 Compliant.
- Standard 3-day lead time.

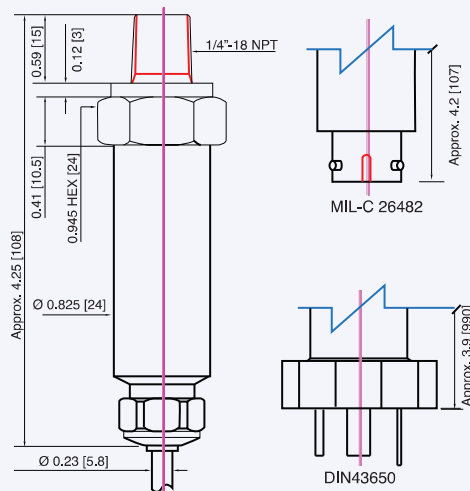


Ranges ≤ 500 PSI

Ranges > 500 PSI



Dimensions in inches [mm]



Wiring		
	2-wire (mA)	3-wire (VDC)
Pin 1 / C / White	OUT / GND	GND
Pin 2 / B / Red	N/A	+OUT
Pin 3 / A / Black	+Vcc	+Vcc

Pins 1, 2, & 3 refer to the DIN and mPm-style connectors. A, B, C refer to the MIL style connector, and colors correspond to cable conductors.

Braided shield wire connected to transmitter housing. For lightning protection to function properly (4-20 mA only) the shield wire must be connected to a good earth ground.

Specifications are subject to change without notice.



Pressure Ranges_{1,2,3}

Relative	Infinite between 0...2 to 0...500 PSIG
Absolute	Infinite between 0...2 to 0...500 PSIA
Sealed	Infinite between 0...500 to 0...15,000 PSIS
Proof Pressure	10X for 1 PSI to 1.1X for 15k PSI

1. PSIG = Gage; Zero-point referenced to local atmospheric pressure.
PSIA = Absolute; Zero-point set at hard vacuum.
PSIS = Sealed Gage; Zero-point set at 1 bar absolute (14.504 PSIA).

2. Zero-point can be suppressed or elevated for special applications.

3. Intermediate ranges are realized by deranging the analog output from the next highest basic range: 1, 3, 10, and 30 bar (relative) 1, 3, 10, and 30 bar (absolute), and 100, 300, and 1000 bar (sealed). Pressure range may be specified in units of lb/in²(psi), inches WC or feet WC. Keller America uses the International Standard conversion of 2.3067 feet WC/psi.

Accuracy₄

Static	Standard $\pm 0.1\%$ FS, Optional $\pm 0.05\%$ FS
Total Error Band	Standard $\pm 0.25\%$ BR, Optional $\pm 0.1\%$ BR

4. Static accuracy includes the combined effects of non-linearity, hysteresis, and non-repeatability at room temperature (25°C). Total Error Band (TEB) includes the combined effects of non-linearity, hysteresis, and non-repeatability as well as thermal dependencies, over the compensated temperature range, expressed as a percentage of the basic range (BR).

The calculation for maximum TEB on intermediate ranges (IR) is: $TEB_{IR} = (BR/IR) \times TEB_{BR}$

Output

Current	4...20mA
Voltage	0...5 VDC
	0...10 VDC

Connection

Process	1/4"-18 NPT Male ₅
Electrical	std. 10 ft. Cable
	DIN43650 ₆
	mPm393 ₆
	MIL-C 26482 ₇

5. Other process connections available on request. Consult the factory.

6. Mating connector supplied at no extra cost.

7. At extra cost, includes mating connector.

Electrical₈

Supply (4-20mA)	11...28 VDC
Supply (0-5VDC)	8...28 VDC
Supply (0-10VDC)	13...28 VDC
Load Resistance (mA)	<(Supply-11V)/0.022A
Load Resistance (VDC)	>4k ohm

8. Nominal values may be higher depending upon cable length. Internal lightning protection increases the minimum-required supply voltage from 8VDC to 11VDC, due to internal resistance of the surge protectors. In addition, cable resistance (~70Ω / 1000ft) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows:

For two-part (internal-external) system (recommended):
MINIMUM SUPPLY VOLTAGE = 11.6 + 0.022 (CABLE LENGTH x 0.07) VDC

For internal only protector (standard with 4-20mA output):
MINIMUM SUPPLY VOLTAGE = 11 + 0.022 (CABLE LENGTH x 0.07) VDC

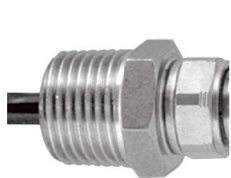
Certifications

CE	EN50081-1, EN50082-2
Shock	20g (11ms)
Vibration	20g (5-2KHz, max. amp ± 3 mm per IEC68-2-6)

Environmental

Protection Rating	
Cable	IP68
mPm393	IP65
DIN43650	IP65
MIL-C 26482	IP65
Operating Temp.	-10...60° C (Cable) -30...100° C (Connector)
Compensated Temp.	-10...80° C
Wetted Materials	316 L Stainless Steel Fluorocarbon

Optional Accessories



1/2" NPT Conduit Fitting



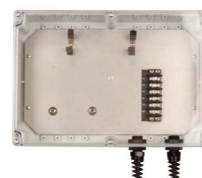
Drying Tube Assembly



Bellows Assembly



Process Meter



Termination Enclosure



Signal Line Surge Protector

GC51 Pressure Transducer

3R Valve Skid Open and Close Hydraulic Pressure Transmitter

FEATURES

- Bright backlit 4-digit LCD display
- "Loop Check" function allows unit to output 4-20mA without applying pressure
- Internal "push-button" configurability allows quick range changes
- "Min./Max. Hold" function allows display to capture pressure events
- Easily rotatable display, 90° increments

TYPICAL USES

- Pump Control
- Hydraulic Systems
- Compressor Control
- Process Automation
- Municipal Water Tank Level

Optional Per Owner Request.



GC51 Pressure Transducer

PERFORMANCE SPECIFICATIONS

Reference Temperature:	73°F (23°C)
Accuracy:	±0.25% of span (URL) Accuracy includes the effects of linearity, hysteresis, and repeatability
Stability:	±0.25% of span (URL)/year
Output Resolution:	0.1% of span (URL)

ENVIRONMENTAL SPECIFICATIONS

Temperature Effects:	14°F to 140°F (–10°C to 60°C) ±0.02% FS (URL)/°C
Temperature Limits:	Storage: –4°F to 158°F (–20°C to 70°C) Operating: 14°F to 140°F (–10°C to 60°C) Compensated: 14°F to 140°F (–10°C to 60°C)

FUNCTIONAL SPECIFICATIONS

Overpressure:	Proof:	Burst:
≤1,500 psi	2 X Range	5 X Range
3,000 & 5,000 psi	1.5 X Range	3 X Range
7,500 psi	1.2 X Range	1.5 X Range
Response Time:	30 ms (user adjustable)	
Vibration:	5 g's 150Hz	
Shock Effect:	10 g's 16ms	
Display:	Type: 4 digit, 10mm LCD with LED backlight Accuracy: ± 0.25% FS (URL) + last digit	

ELECTRICAL SPECIFICATIONS

Output Signal:	4-20 mA (2 Wire)
Supply Voltage:	12-32 Vdc
Rangeability/Adjustment:	Zero: -10% to +110% span Span: -10% to +110% span (Accuracy and output resolution based upon F.S. (URL) value)

KEY BENEFITS

- Robust NEMA 4X (IP65) aluminum die cast housing
- Scaling function allows display to indicate user defined physical units
- Up to 8X smaller than a conventional process transmitter

Insulation Resistance: 50 Vdc (>100 MΩ)

EMC Compliance: EMC Directive 2004/108/EC
IEC/EN 61326-1: 2006 (EMI Class A/ EMS Table 2)
IEC/EN 61326-2-3: 2006
(Annex BB (Pressure Transducer))

PHYSICAL SPECIFICATIONS

Weight:	Approx. 1.0 lb.
Environmental Rating:	IP66/NEMA 4X
Electrical Connection:	½ NPT Female Conduit Cable Gland (Cable diameters 0.35" to 0.47")
Mounting:	Mounting bracket included
Process Connection:	¼ NPT Female

WETTED MATERIAL		
Diaphragm	Process Connection	Media Compatibility
17-4PH SS	316 SS	Fluids and gases compatible with 316 SS and 17-4PH SS
NON-WETTED		
Enclosure		
Aluminum, epoxy coated		

The graph shows the relationship between Loop Resistance (V) on the y-axis and Current (A) on the x-axis. The y-axis has markings at 0, 250, 500, 545, 750, 1,000, and 1,020. The x-axis has markings at 0, 10, 12, 20, 24, 30, and 32. A solid line starts at (12, 0) and goes up to (32, 1020). A shaded triangular region, labeled 'OPERATING REGION', is bounded by the y-axis at 545 V, the x-axis at 24 A, and the solid line. Dashed lines indicate the coordinates (24, 545) and (32, 1020).

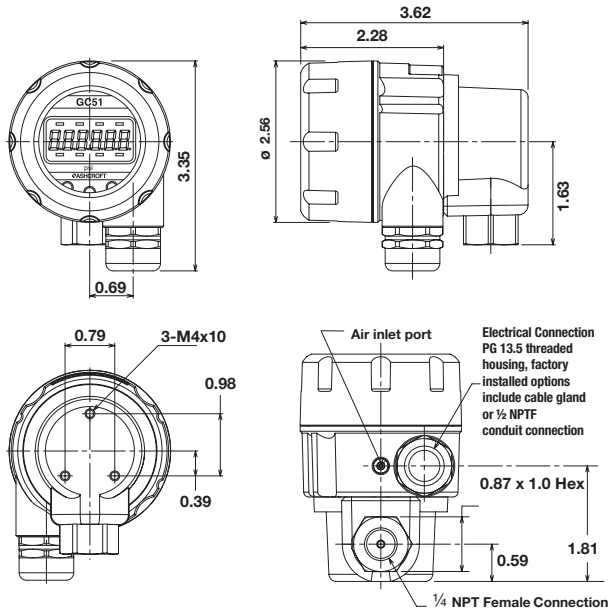
 $R_w = \text{Wire Resistance (ohms)}$

ORDERING CODE	Example:
Model	
GC51 - Rangeable pressure transmitter	
Accuracy	
7 - $\pm 0.25\%$ of span	
Pressure Fitting	
F02 - 1/4 NPT Female	
Output Signal	
42 - 4-20 mA Output signal	
Electrical Connection	
CG - Cable gland	
CD - 1/2 NPT Female conduit	
Pressure Range	
Compound	
15#&VACG - Vac - 15 psi	
30#&VACG - Vac - 30 psi	
50#&VACG - Vac - 50 psi	
Gauge	
50#G - 0-50 psi	
100#G - 0-100 psi	
150#G - 0-150 psi	
300#G - 0-300 psi	
500#G - 0-500 psi	
1000#G - 0-1,000 psi	
1500#G - 0-1,500 psi	
3000#G - 0-3,000 psi	
5000#G - 0-5,000 psi	
7500#G - 0-7,500 psi	
Option (if including an option(s) must include an "X")	
RH - 9 pt. NIST traceable calibration certificate	
6B - Cleaned for oxygen service	

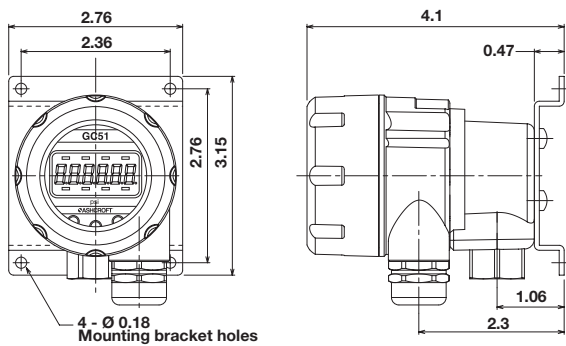
GC51 Pressure Transducer

DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings



Installation Drawings



FEATURES

- Custom dial printing options
- Micrometer adjustable pointer
- **PLUS!**TM Performance option dampens vibration, shock and pulsation effects
- Pressure range from Vacuum to 2000 bar/30,000 psi

TYPICAL USES

- Refineries
- Chemical and petrochemical plants
- Offshore oil rigs
- Water and wastewater pressure control
- Pulp and water
- Mining and metals
- Equipment skids
- Specialized OEM equipment
- Cryogenics

SPECIFICATIONS

Accuracy:	±0,5 % of span (ASME B40.100 Grade 2A)	
Dial Size:	4 ½" (115 mm)	
Range:	Vacuum, Compound to 2000 bar/30,000 psi	
Process Connection Location:	Lower, back, side, top	
Process Connection:	¼ NPT Male, ½ NPT Male, G ½ B Male, M20x1,5 Male, 9/16 -18 UNF-2B (high pressure connection)	
Case Style:	Solid front with pressure relief back	
Window:	Glass (STD.), acrylic, shatter proof glass, non-glare glass (OPT.)	
Movement:	Rotary, adjustable	
Movement Materials:	Stainless steel 400, Teflon® coated pinion gear and segment	
Dial:	Aluminum, white background, black scale	
Pointer:	Micrometer, adjustable, aluminum	
Weather Protection:	Dry case:	Case not sealed, recommended for weather protected environment only
	Liquid filled or field fillable:	IP66 or NEMA 4X (S&P tube and socket) NEMA 4 (A&R tube and socket)
	Hermetically sealed:	IP66
Dampening Options:	Liquid: glycerin, silicone, Halocarbon®, PLUS! ™ Performance	
Mounting:	Stem, surface (STD.), flush, pipe, remote (OPT.)	
Approvals:	CRN, CE (PED), EAC	

WETTED COMPONENTS

Bourdon Tube	Process Connection Materials	Joints
1.4404 / 316L St.st.	1.4404 / 316L St.st.	Welded
1.4404 / 316L St.st.	Steel	Welded
K-Monel® 500	Monel® 400	Welded
C510 Phos. Bronze	Brass	Silver brazed



1279
4 1/2" dial size



KEY BENEFITS

- Available with a wide variety of accessory and diaphragm seal assemblies
- Available with high process temperature dissipation siphons

NON-WETTED COMPONENTS

Case	Ring	Pressure Relief Back
Phenolic	Threaded, Polycarbonate (Meets UL 94 V-0)	Polycarbonate (Meets UL 94 V-0)

MIN./MAX. TEMPERATURE LIMITS

Version	Ambient	Process	Storage
Dry	-29 °C to 93 °C (-20 °F to 200 °F)	-29 °C to 121 °C (-20 °F to 250 °F)	-40 °C to 121 °C (-40 °F to 250 °F)
PLUS!™	-40 °C to 66 °C (-40 °F to 150 °F)	-40 °C to 93 °C (-40°F to 200 °F)	-40 °C to 66 °C (-40 °F to 150 °F)
Glycerine	-7 °C to 66 °C (20 °F to 150 °F)	-7 °C to 66 °C (20 °F to 150 °F)	-18 °C to 66 °C (0 °F to 150 °F)
Silicone	-40 °C to 66 °C (-40 °F to 150 °F)	-40 °C to 93 °C (-40°F to 200 °F)	-40 °C to 66 °C (-40 °F to 150 °F)
Halocarbon®	-40 °C to 66 °C (-40 °F to 150 °F)	-40 °C to 93 °C (-40°F to 200 °F)	-40 °C to 66 °C (-40 °F to 150 °F)

Note: Other than discoloration of the dial and hardening of the gasketing that may occur as ambient or process temperatures exceeds 150 °F, non-liquid-filled gauges with standard glass windows, can withstand continuous operating temperatures up to 121 °C (250 °F). Liquid-filled gauges can withstand 93 °C (200 °F) but glycerin fill and acrylic window will tend to yellow. Accuracy at temperatures above or below the reference ambient temperature of 20 °C (68 °F) will be affected by approximately 0.3% per 10 K.

Gauges with welded joints will withstand 400 °C (750 °F), 232°C (450 °F) with silver brazed joints for short times without rupture, although other parts of the gauge will be destroyed and calibration will be lost.

For continuous use and for process or ambient temperatures above 121 °C (250 °F), a diaphragm seal or capillary or siphon is recommended.

Data Sheet

1279 Duragauge® Pressure Gauge

		45	1279	S	SL	02	L	3000#
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ORDERING CODE	EXAMPLE:	45	1279	S	SH	04	L	1BR	XLL
Dial Size									
45	4 1/2" (115 mm)	45							
Model Code									
1279	Solid front process gauge	1279							
System (tube and process connection)									
A	Bronze tube, brass process connection, Max. pressure 70 bar/1,000 psi								
P	K-Monel® 500 tube, Monel® 400 process connection Max. pressure 2000 bar/30,000 psi								
R	1.4404/316L St.st. tube, steel process connection, Max. pressure 1400 bar/20,000 psi								
S	1.4404/316L St.st. tube and process connection, Max. pressure 1400 bar/20,000 psi	S							
Case Design									
S	Solid front case, dry								
SH	Solid front case, dry, hermetically sealed	SH							
SL	Solid front case, liquid filled (glycerin STD.)								
Process Connection Sizes									
02	1/4 NPT Male (N/A for ranges over 1400 bar/20,000 psi)								
04	1/2 NPT Male (N/A for ranges over 1400 bar/20,000 psi)	04							
09	9/16-18 UNF-2B (high pressure fitting standard for pressures over 1400 bar/20,000 psi)								
15	G 1/2 B Male (system S only, N/A for ranges over 1000 bar/15,000 psi)								
16	M20x1.5 Male (system S only, N/A for ranges over 1000 bar/15,000 psi)								
AM	AND 10050-4 (1/4 tubing connection)								
RW	SAE 7/16-20 Straight thread								
Process Connection Location									
L	Lower	L							
B	Back								
D	Side connection (3 o'clock)								
E	Side connection (9 o'clock)								
T	Top connection								
Range (coding examples only, see range table on page 4 for all standard ranges)									
Single Scales									
15#	15 psi								
1BR	1 bar	1BR							
1KG	1 kg/cm²								
100KP	100 kPa								
Dual Scales									
15#/BR	15 psi inner scale / 1 bar outer scale								
1BR/#	1 bar inner scale / 15 psi outer scale								
Options (If choosing an option(s) must include a "X")									
Dampening									
LL	PLUS!™ Performance	LL							
NZ	PLUS!™ Performance silicone free								
GV	Silicone case fill								
GX	Halocarbon® case fill								
TS	Throttle screw (Standard with liquid filled, hermetically sealed or PLUS!™ Performance)								
Case/Ring/Dial									
56	Black flush mounting ring type 1278M								
57	Polished stainless steel flush mounting ring type 1278MC								
D3	DuraVis™ Retroreflective Dial (dry case only)								

continued at page 3



1279 Duragauge® Pressure Gauge

ORDERING CODE	EXAMPLE:	45	1279	S	SH	04	L	1BR	XLL
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Options (If choosing an option(s) must include a "X")

Window/Pointers

- PD Acrylic window (standard with liquid filled or hermetically sealed cases)
- SG Safety glass
- NG Non-glare glass (N/A with liquid fill or hermetically sealed cases)
- EP Maximum pointer (adjustable, N/A with liquid filled or hermetically sealed cases)
- SH Red set hand, stationary

Bourdon tube system/Movement

- OS Overload stop
- VS Underload stop
- TB Tip Bleed (S tube only, 1400 bar/20,000 psi max.)
- AB Gauges calibrated to compensate for absolute pressure
- PR Receiver gauge 3-15 psi
- VY Krytox Lubricated Movement (Silicone Free)

Marking/Tagging

- DA Dial marking (Text marking on the dial)
- NH Stainless steel tag wired to case

Cleaning

- 6B Cleaned for oxygen service

Testing/Certificates

- C3 MTR according to EN 10204 3.1 (system S and P only)
- C4 Individual calibration chart (in accordance with ASME B40.100:2013. Accuracy traceable to NIST)
- C7 PED Declaration of conformity (for ranges ≥ 200 bar)
- EAC EAC Declaration of conformity for Eurasian Customs Union
- HY Hydrostatic/pneumatic testing (system pressurized to 150% of rated system pressure for 5 minutes. Overload stop STD.)
- ML Mass spectrometer leak test
- MQ PMI positive material identification certificate
- ML Mass spectrometer leak test



1279 Duragauge® Pressure Gauge

STANDARD PRESSURE RANGES					
	psi	bar	kPa	MPa	kg/cm ²
Vacuum	30IMV	N1BR	N100KP	N1MP	N1KG
	–	N1/0.6BR	N100/60KP	0.1/0.06MP	N1/0.6KG
	V/15#	–	–	–	–
Compound	–	N1/1.5BR	N100/150KP	N0.1/0.15MP	N1/1.5KG
	V/30#	–	–	–	–
	–	N1/3BR	N100/300KP	N0.1/0.3MP	N1/3KG
	V/60#	–	–	–	–
	–	N1/5BR	N100/500KP	N0.1/0.5MP	N1/5KG
	V/100#	–	–	–	–
	–	N1/9BR	N100/900KP	N0.1/0.9MP	N1/9KG
Positive Pressure	15#	1BR	100KP	0.1MP	1KG
	20#	–	–	–	–
	–	1.6BR	160KP	0.16MP	1.6KG
	30#	–	–	–	–
	–	2.5BR	250KP	0.25MP	2.5KG
	60#	4BR	400KP	0.4MP	4KG
	–	6BR	600KP	0.6MP	6KG
	100#	–	–	–	–
	120#	–	–	–	–
	–	10BR	1000KP	1MP	10KG
	160#	–	–	–	–
	200#	–	–	–	–
	–	16BR	1600KP	1.6MP	16KG
	300#	–	–	–	–
	–	25BR	2500KP	2.5MP	25KG
	400#	–	–	–	–
	500#	–	–	–	–
	600#	40BR	4000KP	4MP	40KG
	800#	–	–	–	–
	–	60BR	6000KP	6MP	60KG
	1000#	–	–	–	–
	1500#	100BR	10000KP	10MP	100KG
	2000#	–	–	–	–
	–	160BR	16000KP	16MP	160KG
	3000#	–	–	–	–
	–	250BR	25000KP	25MP	250KG
	4000#	–	–	–	–
	5000#	–	–	–	–
	6000#	400BR	40000KP	40MP	400KG
	8000#	–	–	–	–
	–	600BR	60000KP	60MP	600KG
	10000#	–	–	–	–
	15000#	1000BR	100000KP	100MP	1000KG
	20000#	–	–	–	–
	–	1600BR	–	160MP	1600KG
	30000#	–	–	–	–

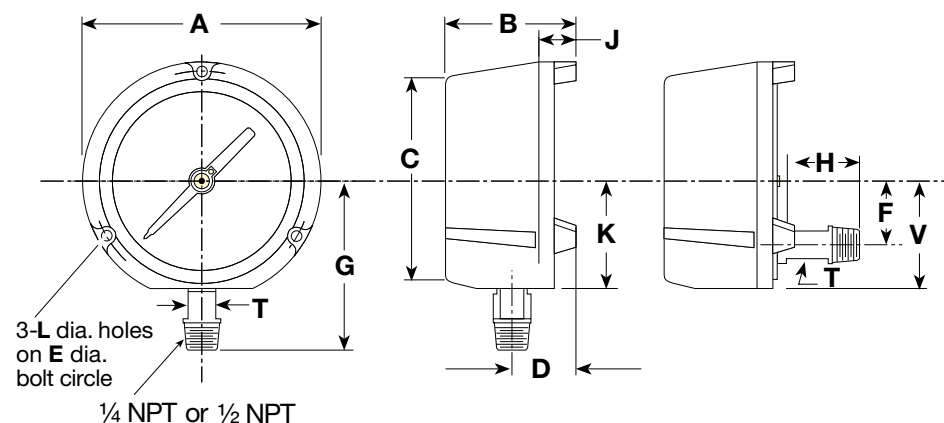


1279 Duragauge® Pressure Gauge

DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

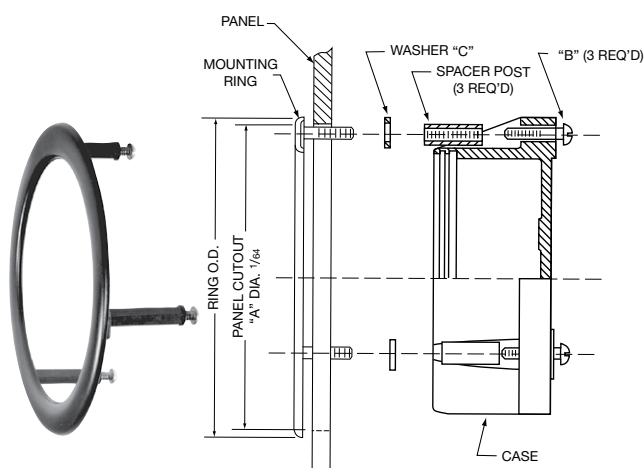
DIAL SIZE INCHES	A	B	C	D	E	F	G	H	J	K	T	V	WEIGHT (KG)
4 1/2	147,6 [5,81]	85,3 [3,36]	128,7 [5,07]	40,6 [1,60]	137 [5,375]	41,2 [1,62]	99,6 [3,92]	18,4 [0,73]	5,5 [0,22]	66,7 [2,62]	23,9 [0,94]	67 [2,625]	1,1 (Dry) 1,6 (L.F.)



1278M SERIES FLUSH MOUNTING RING

1278M Series Flush Mounting Ring. Used to flush mount gauge case 1279(*)S. Black finish (STD.); Polished SS finish (OPT.)

GAUGE SIZE INCHES	RING O.D.	"A" DIA.	"B" SIZE OF 3 SCREWS	"C" SIZE OF WASHERS
4 1/2	152 [6]	148 [5.625]	#10-24 x 1 1/8	7/16 x 1 7/64 x 5/8





FLUID COMPONENTS, INC.

PDSS Series Gauges

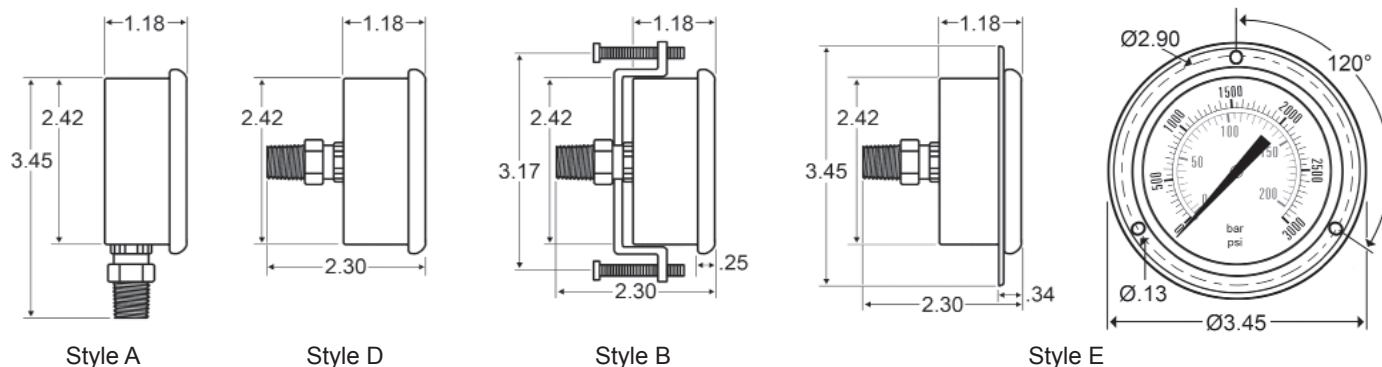
2 1/2" • All Stainless Steel Gauges

Features

- 304 Stainless Steel Case
- 316 Stainless Steel Connection
- 316 Stainless Steel Bourdon Tube
- Built-in Snubber
- Polycarbonate Lens
- Liquid-Filled & Dry Options
- Ambient Temp: -13° F to 150°F
- Max. Process Temp: 750°F
- Range: Vacuum to 15,000 psi
- Dual Scale: psi & bar
- Accuracy: $\pm 1.6\%$ FSD
- Certificate of Accuracy Available
(see page 15 for details)



Installation Data



1/4" NPT is the standard connection for all 2 1/2" PDSS gauges.

Ordering Example:

Model	Size	Type	Range	Style	Options
PDSS	1	P	040	A	001

Model	Size	Type	Pressure Range	Style	Options
PDSS =	2 1/2" dia.	C = Compound	002 = 30" Hg - 30 psi**	A = Stem	001 = Glycerine-filled
All Stainless		V = Vacuum	000 = 30" Hg - 0 psi	B = Panel Clamp	002 = Dry*
Steel Gauges		P = Pressure	001 = 15 psi	D = Center Back	
			100 = 1500 psi	E = Panel Flange	
			002 = 30 psi		
			140 = 2000 psi		
			004 = 60 psi		
			210 = 3000 psi		
			007 = 100 psi		
			280 = 4000 psi		
			010 = 160 psi		
			350 = 5000 psi		
			015 = 200 psi		
			420 = 6000 psi		
			020 = 300 psi		
			700 = 10,000 psi		
			040 = 600 psi		
			800 = 15,000 psi		
			070 = 1000 psi		

* Special Order

** Additional compound ranges may be available by special order.

PDSS Series Gauges

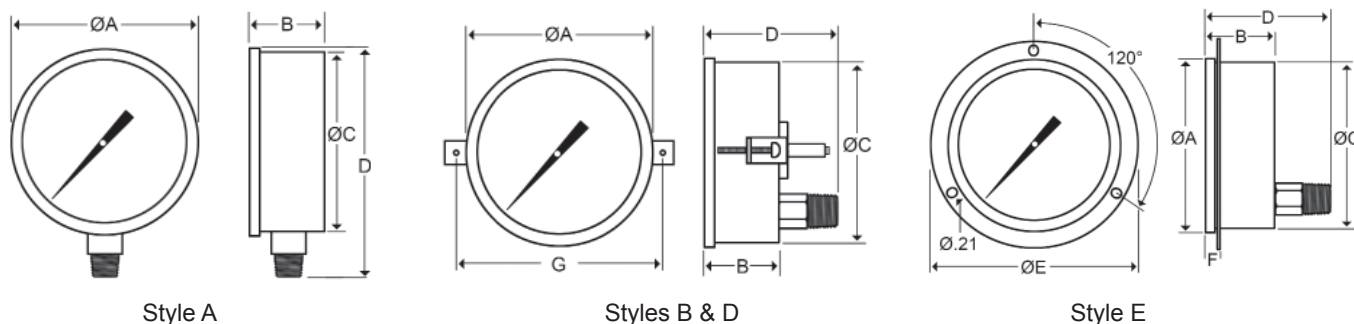
4" • All Stainless Steel Gauges

Features

- 304 Stainless Steel Case
- 316 Stainless Steel Connection
- 316 Stainless Steel Bourdon Tube
- Built-in Snubber
- Polycarbonate Lens
- Liquid-Filled & Dry Options
- Range: Vacuum to 30,000 psi
- Single Scale: psi
- Ambient Temp: -13° F to 150°F
- Max. Process Temp: 750°F
- Accuracy: $\pm 1\%$ FSD
- Certificate of Accuracy Available
(see page 15 for details)



Installation Data



Style	A	B	C	D*	E	F	G
A - Stem	4.28"	1.84"	3.87"	5.30" (1/4" NPT) 5.36" (1/2" NPT)	-	-	-
B - Panel Clamp	4.28"	1.87"	3.87"	3.10" (1/4" NPT) 3.20" (1/2" NPT)	-	-	5.00"
D - Lower Back	4.28"	1.87"	3.87"	3.10" (1/4" NPT) 3.20" (1/2" NPT)	-	-	-
E - Panel Flange	4.28"	1.87"	3.87"	3.10" (1/4" NPT) 3.20" (1/2" NPT)	5.13"	.27"	-

*1/4" NPT is standard connection for 600 psi and below; 1/2" NPT is standard for 1000 psi and above

Ordering Example: **Model** **PDSS** - **Size** **2** **Type** **P** - **Range** **070** **Style** **D** - **Options** **001**

Model	Size	Type	Pressure Range	Style	Options
PDSS = All Stainless Steel Gauges	2 = 4" dia. 3* = 6" dia.	C = Compound V = Vacuum P = Pressure	002 = 30" Hg -30 psi** 000 = 30" Hg - 0 psi 001 = 15 psi 002 = 30 psi 004 = 60 psi 007 = 100 psi 010 = 160 psi 015 = 200 psi 020 = 300 psi 040 = 600 psi 070 = 1000 psi	A = Stem B = Panel Clamp D = Lower Back E = Panel Flange	001 = Glycerine-filled 002* = Dry
PDSS-2-P-210-A-001					
			100 = 1500 psi 140 = 2000 psi 210 = 3000 psi 280 = 4000 psi 350 = 5000 psi 420 = 6000 psi 700 = 10,000 psi 800 = 15,000 psi 900 = 20,000 psi 950 = 30,000 psi		

* Special Order

**Additional compound ranges may be available by special order.