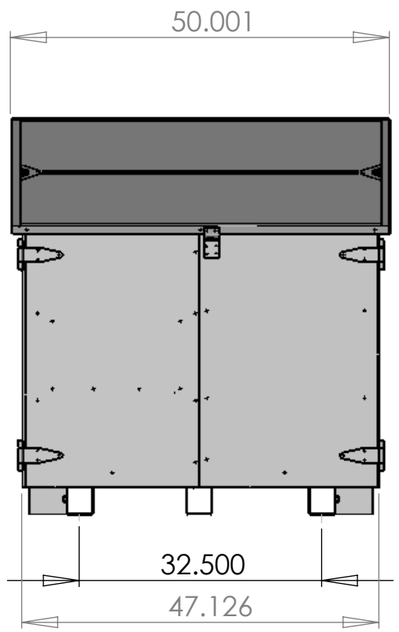
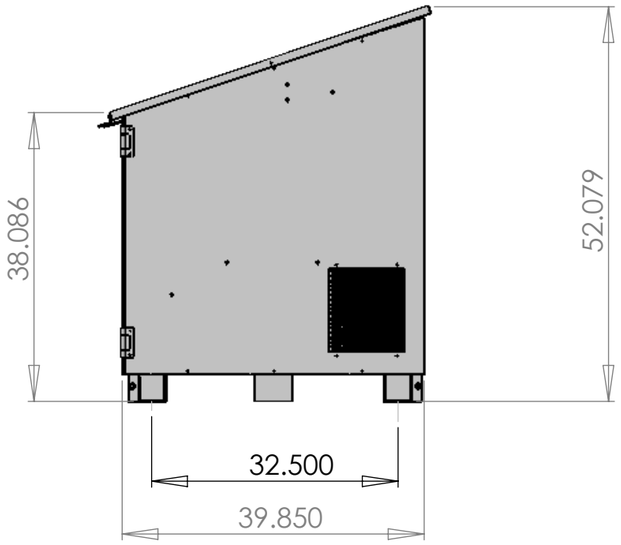
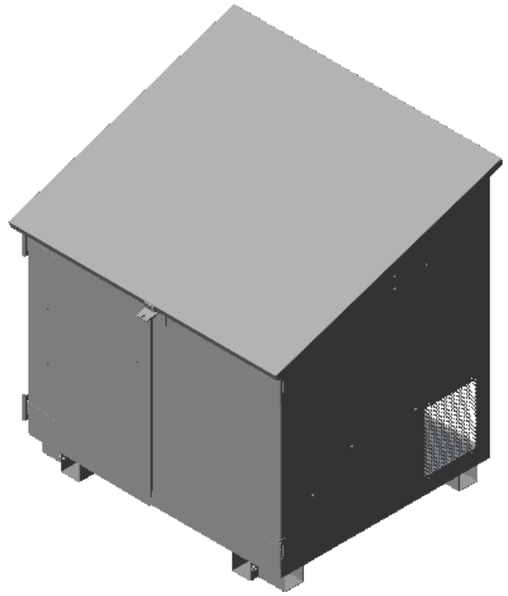
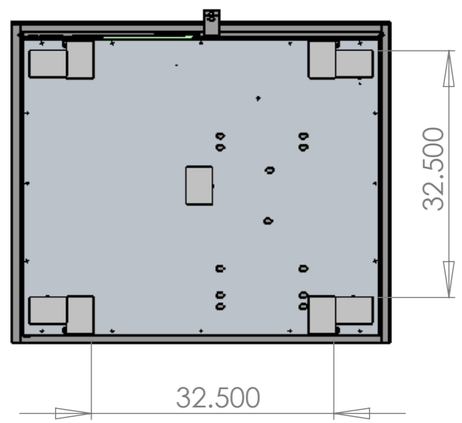
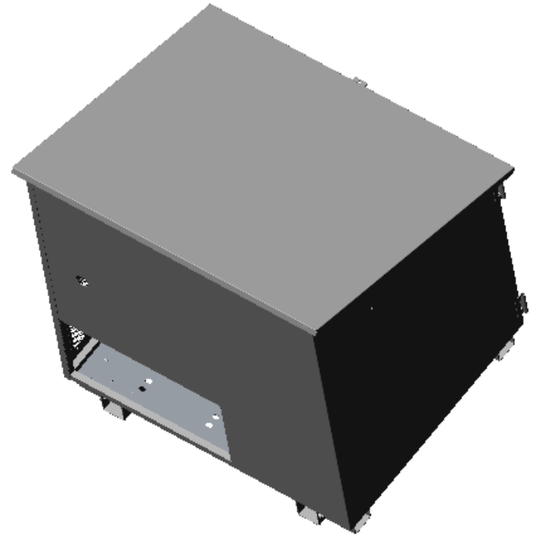










UNLESS OTHERWISE SPECIFIED:		DATE	NAME
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16" ANGULAR: BEND ± 1 DEG TWO PLACE DECIMAL ± 0.030 THREE PLACE DECIMAL ± 0.010	DRAWN	1/24/2011	EJB
	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
MATERIAL --	COMMENTS:		
FINISH --			

DAYTON ROGERS

TITLE: ALM TREADPLATE & S.S. CABINET

SIZE	DWG. NO.	REV
B		

SCALE: 1:20 | WEIGHT: | SHEET 1 OF 1

Spec Sheet 551-007
Section: 551
Effective: April 2015
Replaces: October 2014

Ebsray RV Series – Model RV18

Bypass Valve for LPG Applications

Model RV18

Design

In-line design Bypass/Pressure Relief Valves are used for a wide variety of LPG services. Adjustable differential pressure is attained for accurate and repeatable performance in return-to-tank or bypass systems. This enables full pump flow while maintaining controlled preset maximum pressure.

Features & Benefits

- CBS – Constant Bleed System
- Chatter-free quiet operation
- 90º porting arrangement
- 1" NPT tapped ports. 1" ANSI 300 flanged option.
- Adjustable pressure setting
- Low pressure rise
- VRS – Vapor Removal System

Assured Quality & Performance

ISO9001 Quality System assures compliance with the high safety and quality standards demanded by the LPG industry

Pumps are listed by Underwriters Laboratories for LP-gas service.

Ebsray RV Series – Model RV18
Bypass Valve for LPG Applications

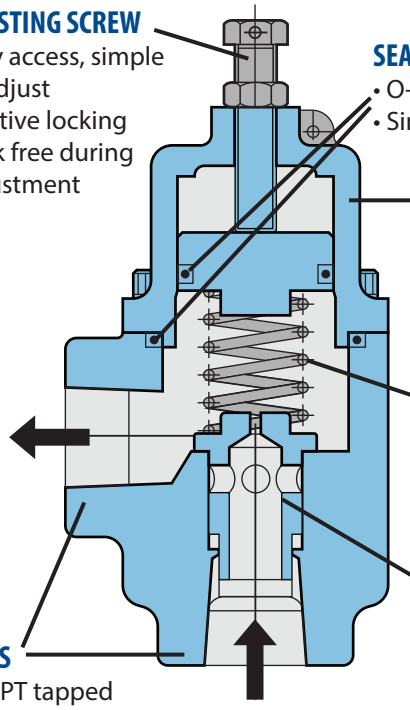
Maximum Operating Limits

Pump Model	Flow Rate		Differential Pressure		Hydrostatic Test Pressure	
	gpm	L/min	psi	bar	psi	bar
RV18	52	200	203	14	1,015	70

Porting:
1" NPT tapped

1 Downstream system resistance will affect differential pressure.
2 Spring selection to suit required pressure range.
3 Pressure rise is dependent upon flow through Bypass Valve

NOTE: All specifications and illustrations are typical only and subject to revision without notice. Certified data available upon request.



ADJUSTING SCREW
- Easy access, simple to adjust
- Positive locking
- Leak free during adjustment

SEALING
- O-ring
- Simple to service

CASING
- Ductile iron to ASTM A395
- Assembled valve hydrostatically tested to 1,015 psi (70 bar)

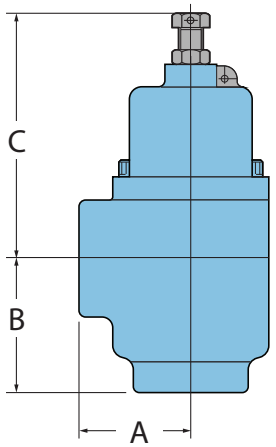
SPRING
- Adjustable within spring pressure range [1,2]
- High quality spring steel

VALVE
- Spool type quiet operation
- CBS (Constant Bleed System) *Standard (optional VRS)*

PORTS
- 1" NPT tapped
- Ease of installation service

Dimensions

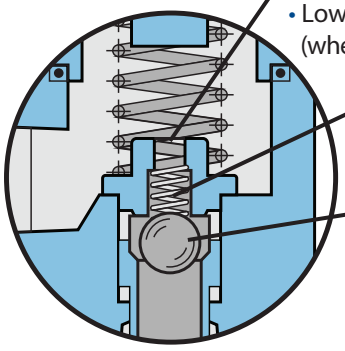
Pump Model		A	B	C	Ports	Weight
RV18	in	2.17	2.6	5.3	1" NPT Tapped	13.9 lbs
	mm	55	66	135		6.3 kg



Optional

Integral "excess flow" type VRS. (Vapor Removal System)

- Rapid Vapor Clearing
- Efficiency – after vapor clearing is completed "excess flow" valve closes fully. This ensures full pump outlet is available at discharge point.
- Interchangeable with standard Spool Valve. (CBS)



VAPOR PATH
- Low Resistance (when in priming mode)

SPRING
- Stainless steel

BALL
- Non-metallic for quiet actuation and positive sealing

PSG a DOVER company

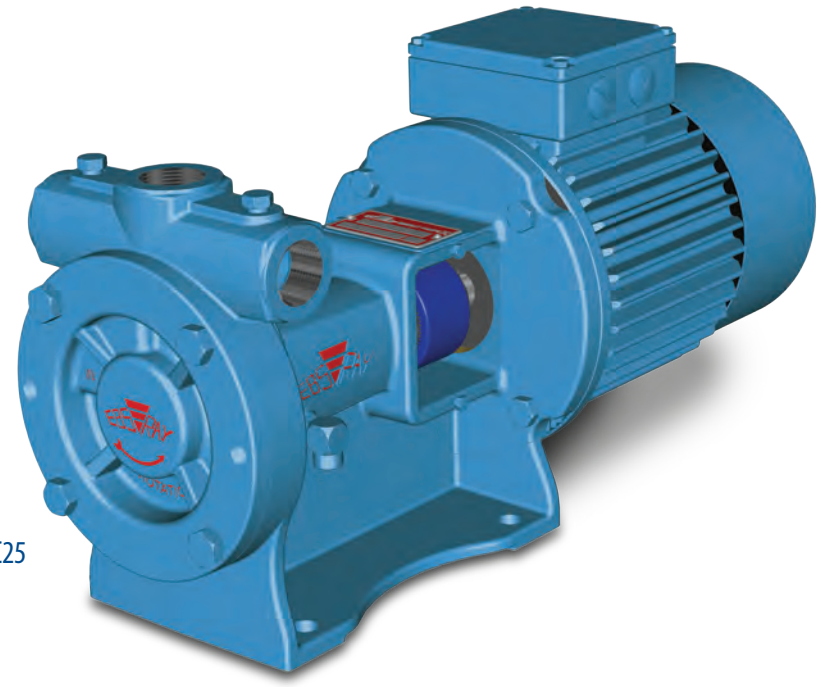
551-007

Blackmer

Spec Sheet 551-001
Section: **551**
Effective: **April 2015**
Replaces: **October 2014**

Ebsray RC Series – Models RC20 & RC25

Regenerative Turbine Pump for LPG Applications



Model RC25

Design

The Ebsray RC Series Regenerative Turbine Pumps are designed and precision-built for high-pressure transfer of LPG, autogas, propane, and butane.

Applications

- LPG Autogas dispensers, single or two hoses (RC25)
- Industrial dispensing
- Autogas refueling
- Marine dispensing
- Portable tanks
- Cylinder filling
- Forklift refueling
- Direct burner or vaporizer feed

Features & Benefits

- Quiet, vibration-free operation
- Low maintenance, single-stage impeller
- Close coupled to standard NEMA C-face motors. IEC C-face adapters available.
- Simple installation with C-face close coupled mounting
- Versatile 3-port arrangement, self-venting design
- Bypass valve connection port direct on pump
- Balanced mechanical seal, unique cartridge design for simplicity of assembly/maintenance
- Throttle bushing for secondary sealing

Assured Quality & Performance

ISO 9001 Quality System assures compliance with the high safety and quality standards demanded by the LPG industry

Pumps are listed by Underwriters Laboratories for LP-gas service.

Ebsray RC Series – Models RC20 & RC25

Regenerative Turbine Pump for LPG Applications

Maximum Operating Limits

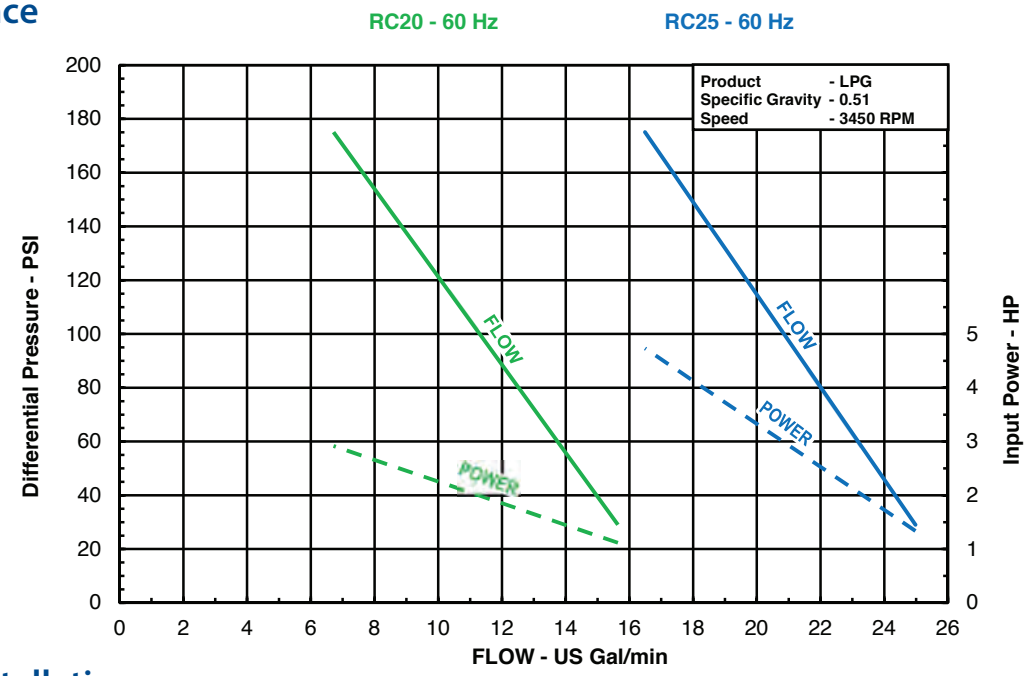
Pump Model	Flow Rate (at 3,500 rpm)		Differential Pressure (at 3,500 rpm)		Hydrostatic Test Pressure		Power		Pump Speed	Weight	
	gpm	L/min	psi	bar	psi	bar	HP	kW	rpm	lbs	kg
RC20	15	58	175	12	1,015	70	2.9	2.2	3,500	43	19.5
RC25	25	94	175	12	1,015	70	4.8	3.6	3,500	43	19.5

Porting:

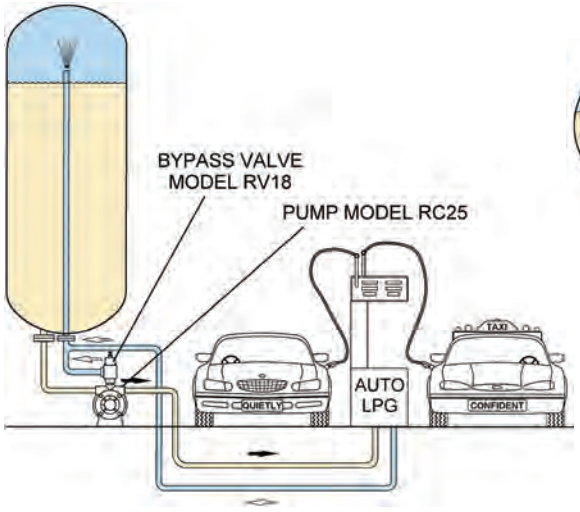
Inlet: NPT 1" 90˚ and/or 180˚

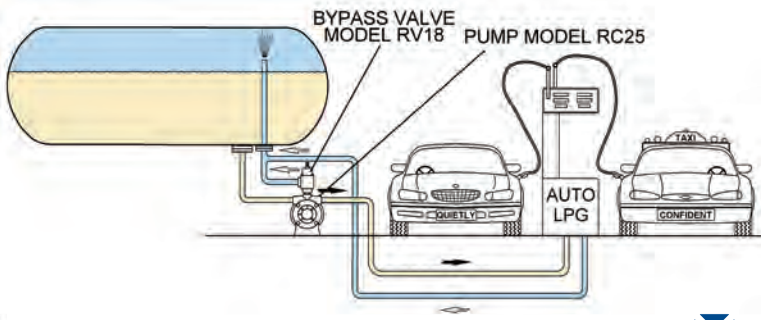
Discharge: NPT 1" 90˚ and/or 180˚

Performance



Typical Installations





Blackmer®

PSG® a DOVER company

551-001

EFS Non–Sealed Tumbler Switches

Explosionproof, Dust-Ignitionproof

Malleable Iron Body and Cover. Furnished with Internal Ground Screw.

Class I, Division 1 and 2, Groups C, D
Class II, Division 1 and 2, Groups E, F, G
Class III
NEMA 7CD, 9EFG

Applications

- Designed to prevent arcing of enclosed switches in ignitable atmospheres during connect and disconnect operation of lighting and light power loads.
- For use in classified areas where ignitable vapors, gases or highly combustible dusts are present.
- For installation in:
  - Chemical plants
  - Petrochemical plants
  - Refineries
  - Other process industries

Features

- Enclosures have external mounting lugs for ease of mounting.
- Smooth, rounded integral bushing in each hub protects conductor insulation.
- Enclosures furnished with internal ground screw.
- 20 Amp and 30 Amp units available for use with 120-277 Vac.
- Smooth ground mating surfaces assure flame-tight joint between cover and mounting enclosure.
- Stainless steel hex head cap screws for attaching cover to mounting enclosure.
- Choice of front-operating or side rocker arm handle—each may be locked in ON or OFF position.
- Each handle has close-tolerance threaded stainless steel shaft to meet explosionproof requirements.
- Enclosures furnished with internal ground screw.

Options

- 1- or 2-gang copperfree (4/10 of 1% max.) aluminum bodies and covers available. Add suffix – **A**.
- **NPBRKT** nameplate mounting bracket to make circuit description/identification easy.
  - Pre-drilled holes in bottom of bracket allow direct mounting to control stations with existing cover bolts.
  - Pre-drilled holes in middle of bracket allow mounting of customer's circuit identification nameplate; epoxy glue may also be used for mounting (phenolic nameplate not included).
  - Bracket eliminates costly field installation of drilling and tapping to accommodate circuit identification nameplate.
  - Brackets fit side-by-side on 2-, 3- and 4-gang boxes and 3-devices.

Standard Materials

- Body and cover: malleable iron
- Handle: nylon 6/6
- Optional nameplate mounting bracket: corrosion resistant stainless steel

Standard Finishes

- Tumbler switch body: triple-coat—(1) zinc electroplate, (2) chromate, and (3) epoxy powder coat

Certifications and Compliances

- UL Standards: UL 894, UL 1203
- UL Listed: E10523, E81751

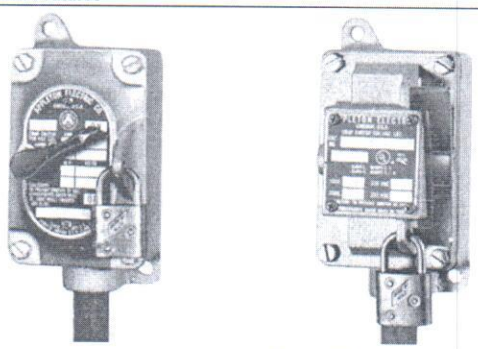
Ordering Information for "Custom" Units

- Devices, covers and bodies may be ordered separately so that a different EFS switch may be used in each gang.
- Order components separately as follows:
  (1) select body catalog number,
  (2) select cover catalog number, and
  (3) select switch or switch assembly catalog number (1-pole, 2-pole, 3-way or 4-way available in listings).

Front Operated

Rocker Arm Operated

Illustrated Features



Handles may be locked in ON or OFF position

How to Order Hub Arrangements

- Simply send sketch indicating sizes and locations for brazed hubs on body or bodies selected from catalog listings. Orient sketch so that cover opening faces front and mounting lugs face upward and downward (box wall opposite cover should be referred to as the *back* of box).

Bodies and Hubs Available

- Tumbler switches may be ordered in single thru five gang deep malleable iron blank bodies with brazed hubs as specified at any location.
- Tumbler switches may be ordered with tandem malleable iron boxes with additional brazed hubs as specified.
- Standard malleable iron single and 2-gang tumbler switches may be ordered with additional brazed hubs as specified.
- Single and 2-gang tumbler switches may be ordered with aluminum boxes with additional brazed hubs as specified.

Related Products

- For classified-location push button, pilot light and selector switch control stations, see *Explosionproof Control Stations Section*.

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Motor Wire Sizing:

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Recommended Motor Wiring						
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***Figure 1**: Recommended Motor Wiring**

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Phased Power:

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System Design:

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SIEMENS

NEMA Motor Data

Ordering data : **1MB2221-1CB11-4AA3**

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Nameplate Data

Type	XP100 ID1 - Class I, Group D, Division 1		
HP	3.0	Rating	Cont.
Voltage	(14) 208-230/460V STD	Ins. Class	Insulation class F
Amps	8.0 / 4.0 A	S.F.	1.15
FL RPM	1760	Amb. Temp.	55 deg C
FL Efficiency	89.5 %	Temp. Rise	Class B
FRAME	182T	kVA Code	K
DE AFBMA	30BC02JPP30	NEMA Des	B
ODE AFBMA	30BC02JPP30	Mtr WT	120
60 Hertz	3 Ph TEFC	IP	65

Mounting and motor protection

Type of construction	(A) Foot mounted - End shield
Motor protection	(A) No winding protection
Terminal box design	(3) Mounting - F-1

Bearing Data

	DE	ODE
Bearing Size	6206 ZZ C3 S0	6206 ZZ C3 S0
Bearing Type	Ball Bearing	Ball Bearing
AFBMA	30BC02JPP30	30BC02JPP30

Typical Performance Data

Load	No Load	1/2	3/4	Full Load	LRC
Efficiency		87.8 %	89.4 %	89.5 %	
Power Factor		59.5	71.7	78.5	
Current (A)	2.1 A	2.7 A	3.3 A	8.0 / 4.0 A	33.0 A

Inverter Duty	VT	20:1	CT	4:1

Mechanical Data

SAFE STALL TIME HOT (s) 17 COLD (s) 29

Rtr wt (lbs) 23.7 Rtr WK2 0.3000

FLT (ft-lbs) 9.0 LRT 21.0 BDT 32.0

Ext Load Inertia (WK2) Capability 17.0

Typical Noise Data

A-weighted Sound	Octave Band Center Frequencies Hertz (Hz)									
Pressure Level	63	125	250	500	1000	2000	4000	8000	SPL	63
at 3 feet		33	51	54	60	58	48	39	SPwrL	72

Wiring Connection Information

Description 3 PHASE - 9 LEAD - WYE

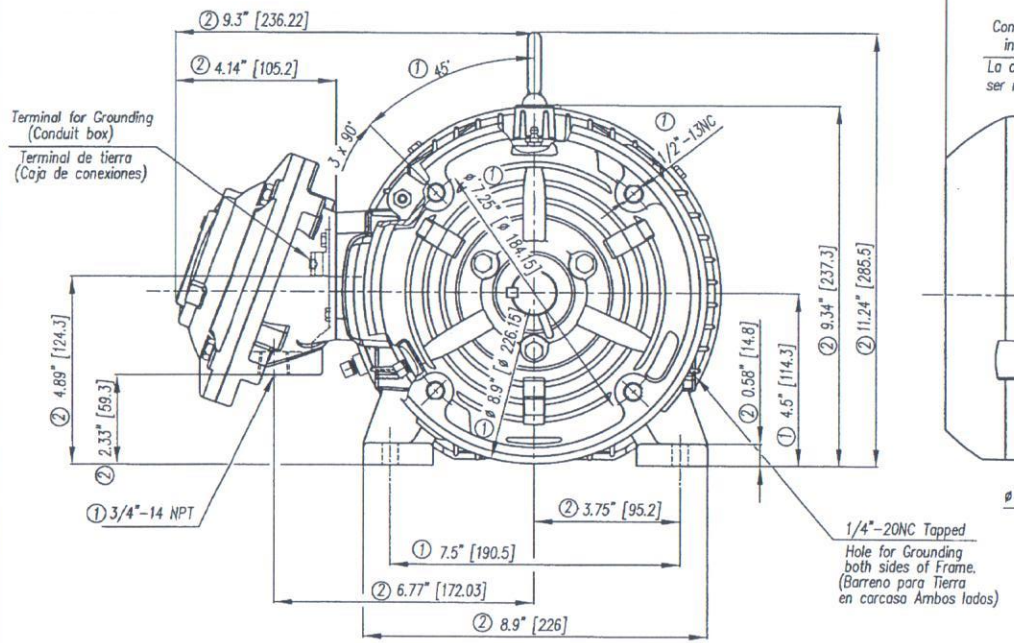
Voltage	L1	L2	L3	Connected together	
LOW	T1 T7	T2 T8	T3 T9	T4 T5 T6	Y Y
HIGH	T1	T2	T3	T4 T7-T5 T8-T6 T9	Y

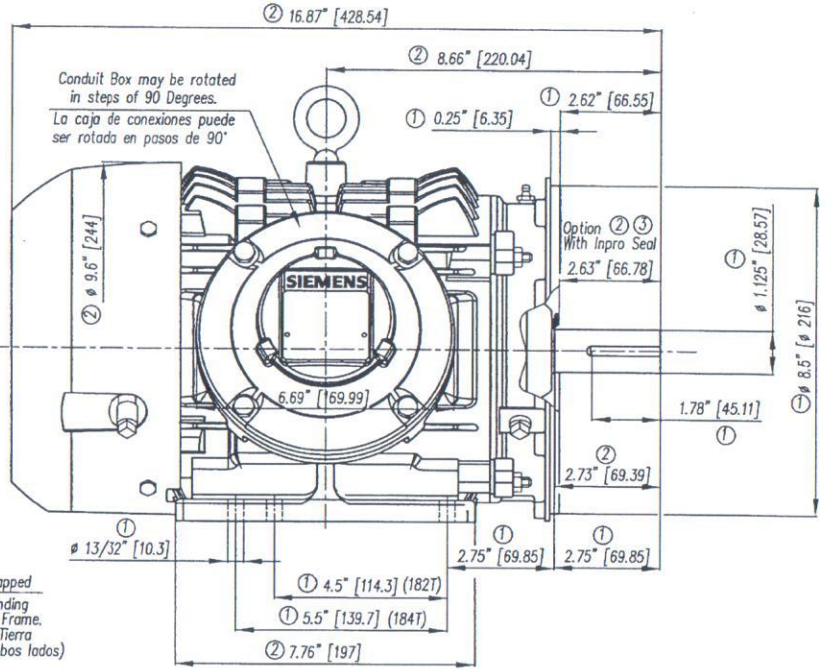
Special design :

Lubrication Information

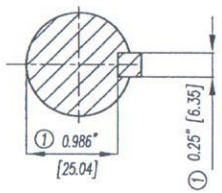
Manufacturer	Mobil Polyrex EM or equal
Type	Polyurea (standard)
DE Capacity (oz.)	0.20
ODEnd Capacity (oz.)	0.20

Relubricate bearings every six months (more frequent if conditions require). See Instruction Manual.





① Tolerances According to NEMA Std.	① Tolerancias acorde a NEMA Std.
② All these dimensions corresponding to assemblies and castings shall have a tolerance as per DIN standard 1686-GTB 19.	② Todas estas dimensiones correspondientes a ensambles y fundición en bruto tendrán una tolerancia según DIN 1686-GTB-19
③ Not According to NEMA Std.	③ No Acorde a NEMA Std.



Keyseat detail
Detalle Cuñero

CERTIFIED PRINT/CERTIFICACION

CLIENTE/CLIENTE						
PO/ORDEN COMPRA #		SO#/ORDEN CLIENTE #				
HP	RPM	FRAME/ARM.	TYPE/TIPO	VOLTS	PHASES	RE

② Tol. in mm. acc. to/Tol. en mm. segun DIN-1686-GTB-19

Over/desde	to/hasta	
---	18	± 4.5
18	30	± 4.7
30	50	± 5
50	80	± 5.5
80	120	± 6
120	180	± 6.5
180	250	± 7
250	315	± 7.5
315	400	± 8
400	500	± 8.5
500	630	± 9.5
630	800	± 10

European Projection/ Proyeccion Europea

Modific.

Dim. in inches/Dim. en pulg.

	Date/Fecha	Name/Nombre
Drawn/Elab.	16/06/10	F. LOMELI
Check/Rev.	09/08/10	A. Real
Std.Ckd./Aut.		

Outline/Dimensiones

Hazardous Duty Division 1

Type/ Tipo: Class I, Group D & C, Class II Group F & G, XP100 Motor 182/184TC Frame/Arm. (F1)

Scale/ Escala: ---

SIEMENS
GUADALAJARA FACTORY
FABRICA GUADALAJARA

3MSE 211 0559

Ref.

Rep./ Sdo.

-/-

F260/1-0310

File E120739
Project 09NK16907

January 24, 2011

REPORT

on

Motors for Use in Hazardous Locations

Siemens S A De C V
Guadalajara, Mexico

DESCRIPTION

PRODUCT COVERED:

USL, CNL XP100 Series Electric motors for use in Hazardous Locations, Class I, Groups C and D; Class II, Groups E, F, and G, Frame sizes 143, 145, 182, 184, 213, 215.

USL, CNL XP100 ID1 Series Electric motors for use in Hazardous Locations, Class I, Group D, Frame sizes 143, 145, 182, 184, 213, 215.

Motors are followed by suffixes T, TC, or TZ which denote length of shaft or length of shaft and flange design, respectively.

GENERAL:

These motors are squirrel cage TEFC electric motors for use in hazardous locations. The XP100 ID1 Series motors are identical to the XP100 Series motors except that they are provided without temperature limiting devices. Ratings and Markings differences are detailed in the description below.

RATINGS:

Maximum Horsepower	See Table 1 below
Maximum rpm	3600
Number of poles	2, 4, 6, 8
Service Factor	1.0 and 1.15 on sinusoidal power 1.0 on inverter power
Duty Rating	Continuous
Insulation Class	When marked Class F on nameplate, lead wires are Class F and the remaining components are Class H When marked Class H on nameplate, all components are Class H
Temperature Rise By Resistance	80°C by resistance
Ambient Temperature Rating	XP100 Series - 40°C XP100 ID1 Series - 60°C Maximum
Operating Temperature or Operating Temperature Code (External Surfaces)	T3C when motor has temperature limiting devices installed T2A when motor has no temperature limiting devices
Maximum Voltage Rating	600

TS-510
Rev. B
Mechanical Flowmeter Transmitters
Digital: Models VR and VRHR

ACTARIS
metering systems

neptune

ELECTRONIC DIGITAL PULSE TRANSMITTERS FOR MECHANICAL FLOWMETERS

DIGITAL TRANSMITTERS

Digital transmitters produce signals that exist only in one of two states: ON or OFF. These states may also be referred to as HIGH or LOW, or 1 or 0 (zero).

MODEL VR7697 (Models 35 & 45)
This economical and versatile bidirectional digital pulse transmitter provides 10 pulses per revolution with excitation power of 115-250 VAC or 12-36 VDC, making it compatible with most remote read-out equipment.

MODEL VR7671 (HR) (Models 35 HR & 45 HR)
This solid state Hall Effect digital pulse transmitter provides 100 pulses per revolution. Note that input (excitation) power is limited to 10-15 VDC.

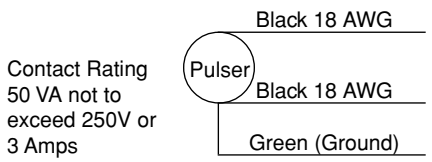
NEPTUNE DIGITAL PULSE ELECTRONIC TRANSMITTER DATA

Model No.	Type Of Device	Contact	Pulses per Revolution	Max Speed: Hz (RPM) (2)	Contact Rating (2)	Enclosure Rating	Input Voltage	Remarks
VR7697	Dry Reed Bi-directional	SP/ST	10	50 (300)	50 VA resistive (not to exceed 250v or 3 amp)	U.L., CSA X-proof Class I, Div 1 Groups C&D	110 & 250 VAC 12-36 VDC	Models 35 and 45
VR7671 (HR)	Hall Effect Uni-directional	Solid State	100	1000 (600)	.75 VA max. non-inductive (not to exceed 15VDC or .05A)	U.L., CSA X-proof Class 1, Div. 1 Groups C&D	10-15 VDC	Models 35 HR and 45 HR

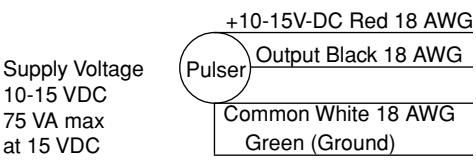
Notes:
(1) All above units are compatible with Batchmate 1500 Solid State Controller (see TS 500)
(2) a. Max speed in pulses per revolution, Hz, and RPM limits from Manufacturers' data

WIRING DIAGRAMS

Model VR7697
(35 & 45)



Model VR7671 (HR)
(35 HR & 45 HR)

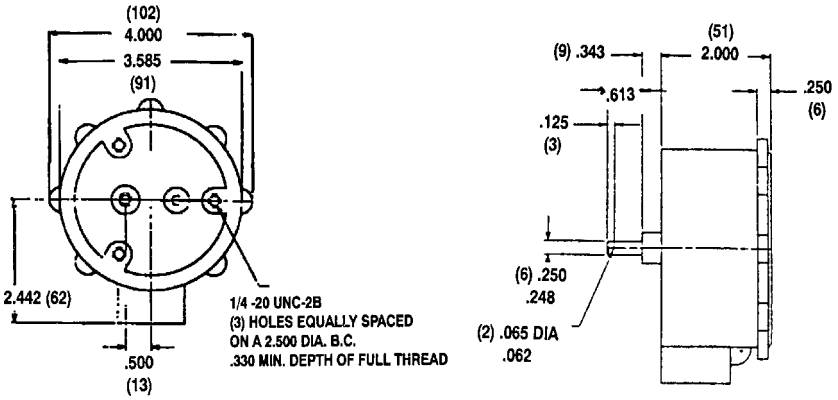


NEPTUNE ELECTRONIC TRANSMITTER Operating and Storage Temperature Data

Model No. / Environment		VR7697 (35 & 45)	VR 7671 (HR) (35 HR & 45 HR)
Operating	**°C**	-40 to +71	-40 to +82
	°F	**-40 to +160**	**-40 to +180**
Storage	**°C**		-55 to +125
	°F		**-67 to +257**

DIMENSIONS in (mm)

Model VR7697 & VR7671 (HR)
(35 & 45) (35 HR & 45 HR)



CURRENT SOURCING -vs- CURRENT SINKING

Current Sourcing: sensor supplies the voltage to the count input. Sourcing sensors are PNP transistor outputs or a contact closure to V+.

Current Sinking: sensor provides a path to DC common for the count input. Sinking sensors are NPN transistor outputs or a contact closure to DC common.

Compatibility: Both sourcing and sinking digital pulse transmitters offered by Neptune are fully compatible with the Neptune BATCHMATE 1500™ electronic batch controllers, which can be set by DIP switches in the device at the factory or in the field to match the transmitter.

ISO 9001: 2000
TÜV CERT
Certificate Reg. No. 74 100 2708

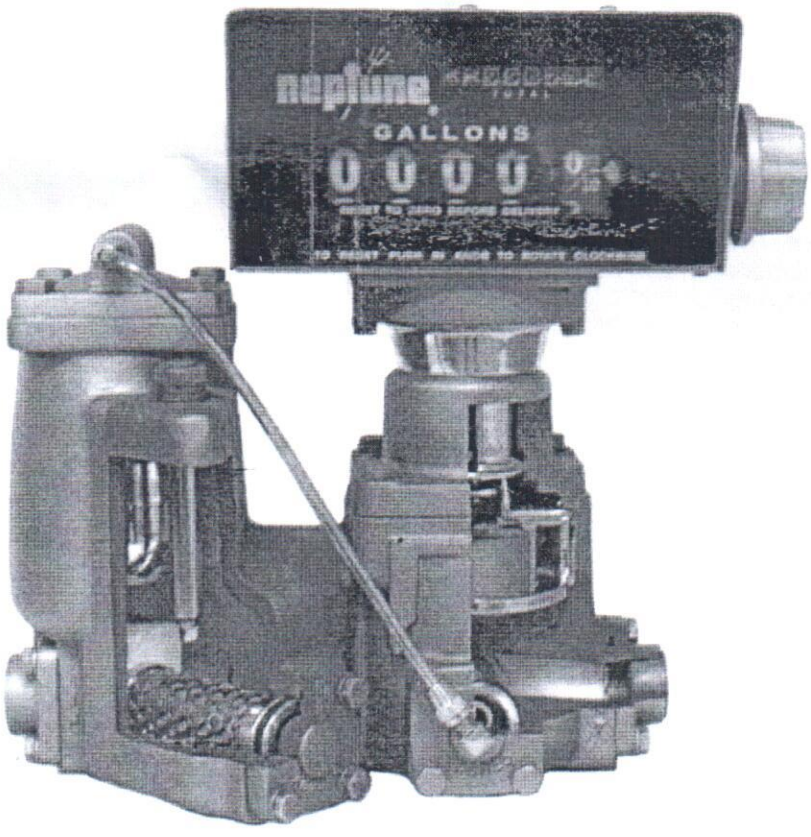
U.S.A./International
1310 Emerald Road
Greenwood, SC 29646-9558
Tel.: Toll-Free (800) 833-3357
(864) 223-1212
Fax: (864) 223-0341

ACTARIS
metering systems

M-285
Rev. H
P.D. Oscillating Piston Flowmeter
1" 4D-MD LP Gas

RED SEAL
MEASUREMENT

Operating and Maintenance Manual LPG



GENERAL INFORMATION

GENERAL INFORMATION

This manual covers the installation and maintenance of the Type 4D-MD LP-Gas Compact Flowmeter (Figure 1) which includes a Strainer, Vapor Release, Differential Valve and Automatic Temperature Compensator.

The housing and pressure components of the 4D-MD are constructed of A356 aluminum with T6 heat treatment. Nominal line connections of 3/4" and 1" (ductile iron connections) are available. The meter is fully rated to 350 psi and has been approved by UL.

The strainer, housed in the Vapor Release at the intake of the flowmeter, is of a fine (either an 80-84 mesh or special 30 micron) mesh double sleeve construction with O-rings for positive sealing. It is accessible by removing the strainer cover.

The Vapor Release, which prevents entrapped vapor from passing through the flowmeter, has a float-operated valve. When vapor collects in the Vapor Release, the valve opens venting vapor to the supply tank establishing pump pressure to close the Differential Valve. The vapor release employs a sleeve-type valve that permits a constant "leak" flow of approximately 0.2 gpm from the vapor vent back to the supply tank.

The Differential Valve is piston, plug type construction and opens when at least 15-psi pump pressure is established. This valve serves three functions to assure system measurement accuracy by requiring: (1) pump operation for delivery, (2) adequate back pressure to prevent product vaporization during measurement, and (3) blockage of flow when the Vapor Release valve opens.

The type 4D-MD is available with outlet/inlet flanges of 3/4" and 1" diameters to permit connection to varying pipe dimensions. Please refer to the current price list or your RSM distributor for additional information.

The optional temperature compensator, by sensing product temperature, controls the readout drive ratio to provide a registration compensated by 15°C (60°F).

The Type 4D-MD is available with a choice of 600 or 800 Series mechanical resettable totalizing registers. Pulse output is also optionally available.

The recommended temperature range for operation of the 4D-MD is -23° to 60°C (-10° to 140°F) or -23°C to 52°C (-10° to 125°F) for automatic temperature compensator equipped meter.

INSTALLATION

INSTALLATION

Before Installing the Flowmeter

1. Plan the installation for maximum rate of delivery, sizing the supply tank outlet, piping and valve for free gravity flow to the pump suction. To accomplish this, locate the pump as close as possible to the supply tank and use short inlet connections with few restrictions. Keep the number of elbows to a minimum, and use large radius elbows, wherever possible. To further reduce the likelihood of causing vapor in the pump suction line, install a pump bypass valve in a return line to the supply tank as shown in the installation drawing. (See Figure 2).
2. Locate the flowmeter at any convenient place in the pump discharge line. If the flowmeter is to be operated under extremes of environment (dirt, water, physical damage, etc.), an enclosure or other protection should be provided. Allow sufficient clearances for removal of the register, strainer and vapor release as shown in Figure 14. **Do not install any bypass around the flowmeter**; the valve in such a line might eventually leak, work open, or be left open causing improper measurement.

To conform with Weights and Measures requirements, install flowmeter so that the **flowmeter** nameplate is visible.

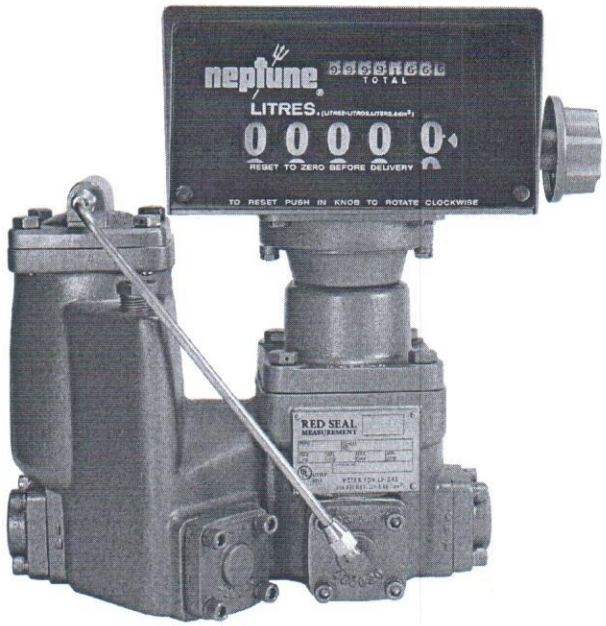
NOTE

All piping on the inlet side of the flowmeter should be very thoroughly cleaned out. Flush out all lines thoroughly before installing the flowmeter.

While the installation is still new, the strainer should be cleaned once per month minimally for the first three (3) months. After the system has been thoroughly flushed of foreign material, only periodic (minimum annually) cleaning is recommended.

The majority of service calls on new installations would be eliminated if these directions were followed.

TYPE 4D-MD
L.P. GAS FLOWMETER
1" ALUMINUM BODY DISPENSER METER



1" 4D-MD with 600 Series Register

DESCRIPTION

The Red Seal 1" Type 4D-MD meter, with double case design has been specifically designed for the custody transfer of liquefied propane and butane gas (LPG). This meter utilizes the oscillating piston positive displacement measuring chamber technology. The 1" Type 4D-MD is particularly suited for filling portable gas bottled and fuel containers for portable burners, pavement heaters, weed burners, fork lift trucks and motor fuel tanks.

The standard unit includes the base meter with the choice of either a 600 Series totalizing register with a resettable counter or an 800 Series printer register. A differential control valve, combination vapor eliminator/strainer, continuous bleed pressure relief valve and tubing kit are also included. An optional automatic temperature compensator (ATC) is available. The ATC senses product temperature and adjusts the readout to result in registration that is compensated to 15°C (60°F).

DESIGN FEATURES

SUPERIOR ACCURACY

The Neptune designed oscillating piston measuring chamber is both accurate and reliable. The piston is treated with a special coating which protects it from damage by impurities and adds lubricity for smooth performance at low flow and high operating pressures.

FLEXIBILITY

Rugged outer body components in a compact design make the 1" Type 4D-MD useable in a wide variety of installation configurations. The meter is also available with several different register options, and in temperature compensated and uncompensated versions.

UNITS OF MEASURE

Neptune 600 and 800 Series registers offer a full range of options for calibration in U.S. gallons, Litres and Imperial gallons, with 5 digit reset and an 8 digit non-resettable totalizer.

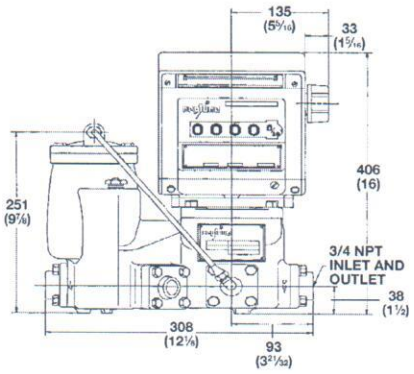
OPERATING SPECIFICATIONS

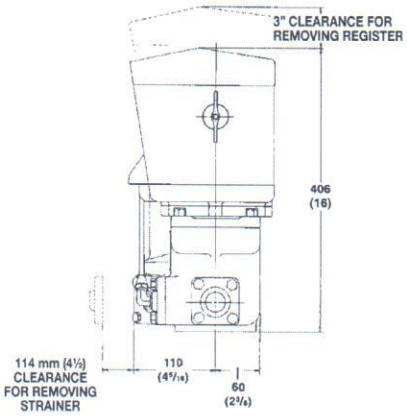
Flow Rate	**LPM**	**US Gal./Min.**
Maximum	68	18
Minimum	11	3
Operating Pressure	**Bars**	**PSI**
Maximum	24	350
Minimum	See Note	
Operating Temperature (without ATC)	**°C**	**°F**
Maximum	60	140
Minimum	-23	-10
Temperature Compensation (ATC)		
Compensates to a basepoint of 15°C (60°F)		
Range:	-23°C to 52°C (-10°F to 125°F)	
Connections		
Ductile iron companion flange tapped for 3/4" std. pipe		
Optional ductile iron companion flange tapped for 1" std. pipe		

Note: A minimum of 1.034 bars (15 psi) is needed to open the differential control valve, plus pressure loss in the system.

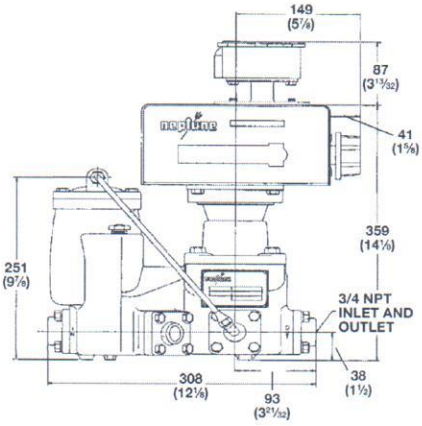
DIMENSIONAL DATA, mm (in.)

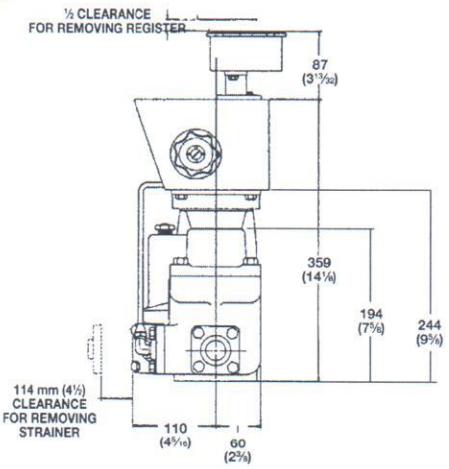
1" 4D-MD with 800 Series Register



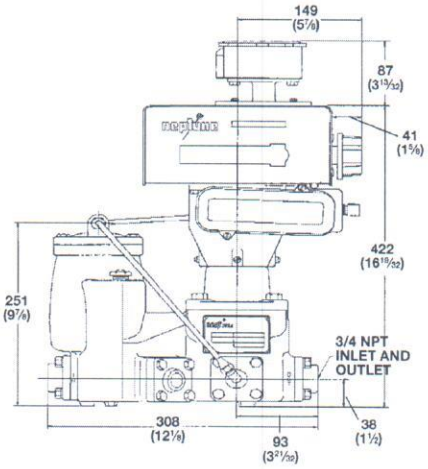


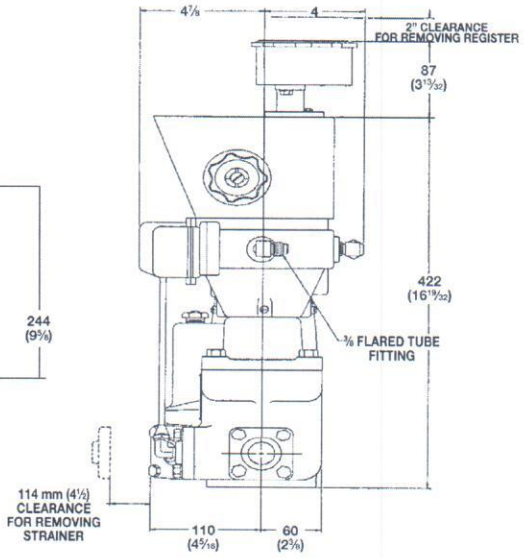
1" 4D-MD with 600 Series Register



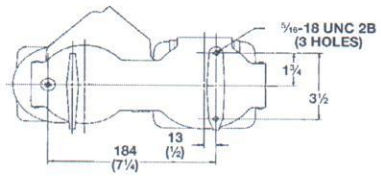


1" 4D-MD with 600 Series Register and ATC





Bottom View All Configurations



Specify Genuine Neptune Replacement Parts

Accuracy of all Neptune Type 4D Custody Transfer Meters for use with L.P. Gas and Butane meets or exceeds N.I.S.T. Handbook 44 Parameters.

1310 Emerald Road
Greenwood, SC 29646
USA
Phone: 1.800.833.3357
Fax: 1.864.223.0341

RED SEAL MEASUREMENT

Certified to ISO 9001:2008

AMERICAN GLOBAL STANDARDS 14001 CERTIFIED-GREEN

TÜVRheinland Precisely Right.

CERTIFICATE

This is to certify that

Engineered Controls International, LLC

100 Rego Drive
Elon, NC 27244
United States of America

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:
The design and manufacture of valves, regulators and fittings for the L.P. Gas, Anhydrous Ammonia, LNG, and Compressed Gas Industries.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2008

Certificate registration no.	10001523 QM08
Date of original certification	1994-10-04
Date of revision	2013-12-08
Date of certification	2012-12-22
Valid until	2015-12-21

UL DQS Inc.

Ganesh Rao
Managing Director

Accredited Body: UL DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA

Annex to Certificate
Registration No. 10001523 QM08

Engineered Controls International, LLC

100 Rego Drive
Elon, NC 27244
United States of America

Location

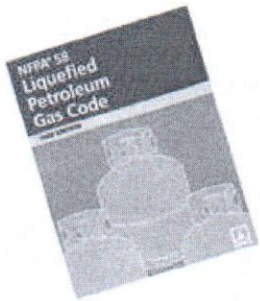
10003889
Engineered Controls International, LLC
3181 Lear Drive
Burlington, NC 27215
United States of America

10003890
Engineered Controls International, LLC
911 Industrial Drive S.W.
Conover, NC 28613
United States of America

This annex (edition: 2013-12-08) is only valid in connection with the above-mentioned certificate.

LP-Gas Excess Flow Valves

Safety Warnings



Purpose

In its continuing quest for safety, REGO® publishes a series of bulletins explaining the hazards associated with the use, misuse, and aging of LP-Gas valves and regulators. It is hoped that these factual bulletins will make clear to LP-Gas dealer managers and service personnel, that the utmost care and attention must be used in the installation, inspection, and maintenance of these products, or problems could occur which would result in injuries and property damage.

The National Fire Protection Association NFPA 58 Liquified Petroleum Gas Code - 2014 Edition states in Section 4 Qualification of Personnel; "Persons whose duties fall within the scope of this code shall be provided with training that is consistent with the scope of their job activities and that includes proper handling and emergency response procedures... Refresher training shall be provided at least every 3 years, initial and subsequent training shall be documented". These "RegO® Safety Warnings" may be useful in training new employees and reminding older employees of hazards that can occur. It is recommended that all employees complete the Propane Education Research Council's Certified Employee Training Program.

Nature of Warnings

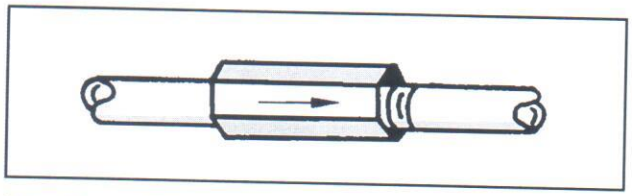
It is recognized that warnings should be as brief as possible, but the factors involved in excess flow valve failures to perform are not simple. They need to be fully understood. If there is a simple warning, it would be:

Make sure that the excess flow valve really closes when the flow exceeds normal transfer flow.

This bulletin is not intended to be an exhaustive treatment of excess flow valves, and certainly does not cover all safety practices that should be followed in installation, operation and maintenance of LP-Gas systems which include excess flow valves.

Selection and Installation

The selection of a given closing rating of an excess flow valve involves an analysis of the complete piping system and is beyond the scope of this bulletin.



It is sufficient to say that an excess flow valve must be installed in the correct direction and will close only if the flow of liquid or vapor exceeds its designed closing rating. Many valves have been installed with closing ratings considerably higher than any flow that could be obtained by a downstream rupture in piping or hoses and thus give none of the protection for which they are intended.

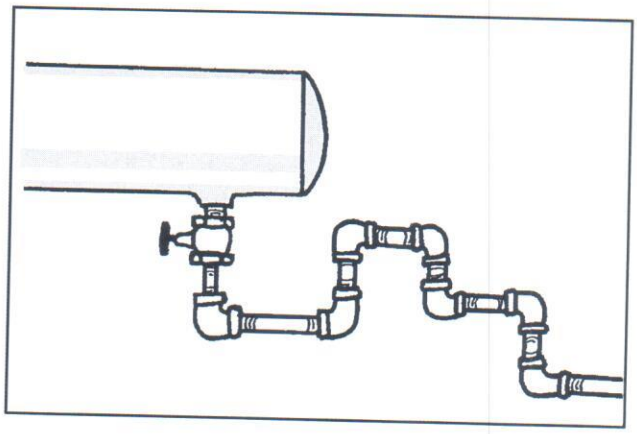
REGO® provides excess flow valves with a number of closing ratings. REGO® obviously can take no responsibility for the proper selection or correct installation of any valve.

Excess flow valves do not provide complete shut-off because there is a bleed at the check to permit pressure equalization.

Causes of Failure to Close

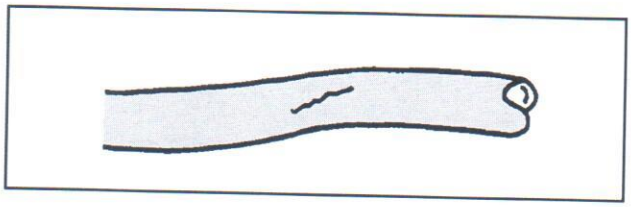
Installers, LP-Gas plant managers and service personnel should be aware that the excess flow valves may not close if these conditions are present.

1. The piping system restrictions (due to pipe length, branches, reduction in pipe size or number of other valves) decrease the flow rate to less than the valve's closing flow.

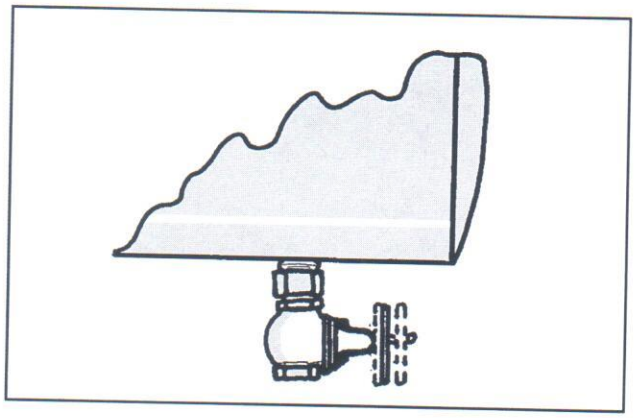


100 RegO Dr. P.O. Box 247 Elon, NC 27244 USA www.regoproducts.com Phone (336) 449-7707 Fax (336) 449-6594

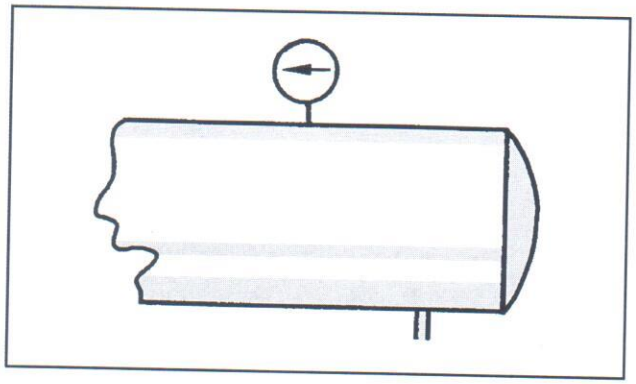
2. The break or damage to the downstream line is not large enough to allow enough flow to close the valve.



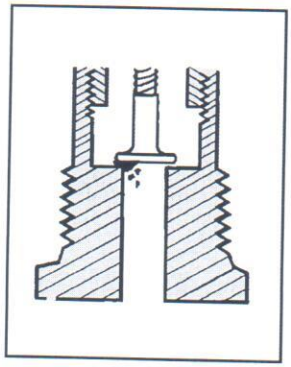
3. A shut-off valve in the line is only partially open and will not allow enough flow to close the excess flow valve.



4. LP-Gas pressure upstream of the excess flow valve, particularly due to low temperature, is not high enough to produce a closing flow rate.



5. Foreign matter (such as welding slag, scale or sludge) is lodged in the valve and prevents closing.



Because of these limitations, it is good industry practice to NOT rely entirely on excess flow valves for protection. Installation of emergency shut-off valves with remote controls is recommended in addition to excess flow valves.

Testing

The National Propane Gas Association Safety Bulletin #113-78 states:

> "In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating. This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained. The exact procedure used may vary with the installation, advisability of gas discharge and availability of equipment.

In general, most testing makes use of the fact that excess flow valves are "surge sensitive" and will close quicker under a sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick open/close valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

> A test involving venting gas to the atmosphere is hazardous and may be impractical, or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valve's condition, and the flow rate sizing for those test conditions."

General Warning

All REGO® products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of materials such as metal and rubber.

The environment and conditions of use will determine the safe service life of these products. Periodic testing at least once a year when tank pressures are low and maintenance, as required, are essential.

Because REGO® products have a long and proven record of quality and service, LP-Gas dealers may forget the hazards that can occur because an excess flow valve is used beyond its safe service life. Life of an excess flow valve is determined by the environment in which it "lives". The LPGas dealer knows better than anyone what this environment is.

NOTE: There is a developing trend in state legislation and in proposed national legislation to make the owners of products responsible for replacing products before they reach the end of their safe useful life. LPGas dealers should be aware of legislation which could effect them.

Excess Flow Valves

General Information
RegO® Excess Flow Valves have been designed, developed, and manufactured for a wide variety of industry needs for more than three decades.

Throughout the years, those concerned with installing and operating bulk plant facilities have looked to RegO® products with confidence for reliable, long-lasting valves as required by the National Fire Protection Association (NFPA) Standards 58 and 59, as well as any state, provincial, and local regulations.

It is a responsibility we have not taken lightly. RegO® products continue to not only assess the most effective designs, but anticipate and meet the industry's changing requirements. Toward that goal, RegO® products include over fifty different types and sizes of excess flow valves (most of which are listed by Underwriters Laboratories) to meet the needs of the LP-Gas and anhydrous ammonia industries.

An Explanation and Warning
An excess flow valve is a spring-loaded check valve which will close only when the flow of fluid through the valve generates sufficient force to overcome the power of the spring holding it open. Each valve has a closing rating in gallons per minute and CFH/air.

The selection of a proper closing rating is critical. It requires a technical understanding of the flow characteristics of the piping system, including restrictions of the piping and other valves and fittings downstream of the excess flow valve.

System designers and operating people must understand why an excess flow valve, which remains open in normal operations, may fail to close when an accident occurs.

Warning: A downstream break in piping or hoses may not result in sufficient flow to close the valve.

How They Work
Excess flow valves permit the flow of liquid or vapor in either direction. This flow is controlled in only one direction (the direction of the arrow stamped on the valve). If the flow in that direction exceeds a predetermined rate (shown in this catalog for each valve), the valve automatically closes.

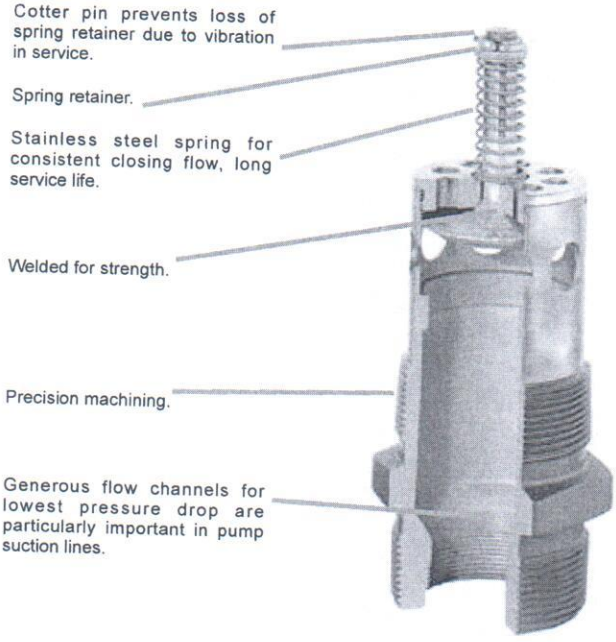
The valve disc is held in the open position by a spring. When the flow creates a pressure drop across the valve disc that overcomes the preset load on the spring, the valve disc moves to the closed position. It remains closed until the force on both sides of the valve disc are approximately equal (a small bleed hole in the disc of each valve permits equalization), then the spring automatically reopens the valve. When a line is completely broken, the pressure cannot equalize and the excess flow valve remains closed until the line is repaired. Because the bleed hole in each valve disc permits equalization of pressure, excess flow valves do not provide a 100 percent type shut-off.

Proper Installation
Since excess flow valves depend on flow in order to close, the line downstream of the excess flow valve should be large enough not to excessively restrict the flow. If the piping is too small, unusually long or restricted by too many elbows, tees and other fittings, consideration should be given to the use of larger size pipe fittings.

An excess flow valve in a pump suction line cannot be expected to close in the case of a clean break in the line beyond the pump, as the pump constitutes too great a restriction, even if running.

Good piping practices dictate the selection of an excess flow valve with a rated closing flow of approximately 50 percent greater than the anticipated normal flow. This is important because valves which have a rated closing flow very close to the normal flow may chatter or slug closed when surges in the line occur during normal operation, or due to the rapid opening of a control valve.

All installations must be in accordance with NFPA Standards 58 and 59, as well as state, provincial and local regulations.



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The Limitations of Excess Check Valves for LP-Gas

Excess flow check valves have been of help in limiting gas loss in many incidents involving breakage of hoses and transfer piping. Thus, they do provide a useful safety function in LP-Gas systems. However, there have also been transfer system accidents where excess flow valves have been ineffective in controlling gas loss due to a variety of conditions and to the inherent limitations of these valves. This bulletin explains what protection excess flow valves can offer, points out conditions which can interfere with that protection, and offers suggestions for effective excess flow valve installation.

An excess flow valve is a protective device to help control the discharge of product in the event of complete breakage of pipe lines or hose rupture. However, an excess flow valve can only offer limited protection from gas discharge, because it will only close under those conditions which cause the flow through the valve to exceed its rated closing flow, and even when closed it necessarily allows some "bleed" past the valve.

An excess flow valve is not designed to close and thus may not provide protection, if any of the following conditions are present:

1. The piping system restrictions (due to pipe length, branches, reduction in pipe size, or number of other valves) decrease the flow rate to less than the valve's closing flow. (Valve should be selected by closing flow rating — not just by pipe size).

2. The break or damage to the downstream line is not large enough to allow enough flow to close the valve.

3. A shut-off valve in the line is only partially open and will not allow enough flow to close the excess flow valve.

4. LP-Gas pressure upstream of the excess flow valve, particularly due to low temperature, is not high enough to produce a closing flow rate.

5. Foreign matter (such as welding slag) is lodged in the valve and prevents its closing.

6. A buildup of process material (sludge), which may be found in LPGas, may occur over a period of time and cause the valve to stick open.

7. The piping break or damage occurs upstream of an in-line excess flow valve, so the escaping product is not passing through the valve.

8. The flow through the valve is in the wrong direction. (Excess flow valves only respond to flow in one direction.)

9. The excess flow valve has been damaged, or is otherwise not in operating condition.

Because of these limitations of excess flow valves, they should not be relied upon as the only means of controlling the escape of product in the event of piping damage. When possible, shut-off protection by quick closing valves, with shut-off controls accessible in spite of likely line damage, should be provided in addition to, or instead of excess flow valves.

Where excess flow valves are installed, they should be checked to see that:

1. They are installed in the correct direction — the arrow on the valve indicates the shut-off direction.

2. The flow rating on the valve is proper for the installation. The rating must be above the normal system flow, but not higher than necessary to prevent "nuisance" closing in normal conditions. If the manufacturer's catalog information is not sufficient, the valve suppliers can provide sizing assistance.

3. In-line excess flow valves are installed so likely piping damage will occur downstream of the valve and will not separate the valve from the upstream piping.

When the excess flow valves can be examined separate from the line (before the installation or if removed for system maintenance), they should be checked to see that the parts are in good condition and that the poppet can be pushed fully closed.

Testing of Excess Flow Valves

In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating.
This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained. The exact procedure used may vary with the installation, advisability of gas discharge, and availability of equipment.

In general, most testing makes use of the fact that excess flow valves are "surge sensitive" and will close quicker under a sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick-closing valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

A test involving venting gas to the atmosphere is hazardous and may be impractical, or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valve's condition, and the flow rate sizing for those test conditions.

For additional information on excess flow valves and other means of
shut-off protection, contact REGO® and refer to NFPA 58.

Prepared by
NATIONAL PROPANE GAS ASSOCIATION
The purpose of this bulletin is to set forth general safety practices for the installation, operation, and maintenance of LP-Gas equipment. It is not intended to be an exhaustive treatment of the subject, and should not be interpreted as precluding other procedures which would enhance safe LP-Gas operations. The National Propane Gas Association assumes no liability for reliance on the contents of this bulletin.

Nozzles in the GasGuard "GG20" series are designed to reach into, and connect to, deep-seated filler valves, as associated with forklift truck cylinders and RV filler valves in similarly difficult locations. This is possible due to the extended connector on the outlet of the nozzle which allows customers to connect to fill points with a more difficult access point. There are three different nozzles in the UL listed GG20 range, the **GG20**, the **GG20H** and the **GG20DN**, which cater for differing customer needs. With a 35mm longer connector the nozzles are engineered with the same function as their shorter GG1E, GG1EH and GG1DN counterparts. With a lightweight & well balanced construction, the GG20 series design has seen significant improvements in operational performance and reduced maintenance requirements, and like all GasGuard nozzles, they are fully repairable.

Standard Specifications for GG1 series nozzles:

Connector thread coupling:	1¾" ACME x 6 TPI form
Swivel Inlet thread:	15mm (½") or 20mm (¾") N.P.T. female
Nett mass:	2.0kgs (4.4lbs)
Max. operating pressure:	2450 KPa (350 psi)
Operating temperature:	-40 to +110 deg. C

Standard features on all GasGuard Autogas Nozzles:

- Safety: Cannot discharge LPGas to the atmosphere when not coupled and lever is actuated.
- Safe connection: Nozzle will safely seal with filler valve, even if its sealing gasket is missing.
- Swivel: Option of either 15mm (½"), 20mm (¾") N.P.T. internal thread to the inlet swivel to the Nozzle.
- Latching: An optional lever hold-open latch is available (not UL listed).
- Robust: High strength aluminium alloy connector casting with a stainless steel ACME thread Insert provides long service without distortion.

GG20 Nozzle Characteristics

Nozzle is used for industrial refueling of forklift truck cylinders and RV filler valves in similarly difficult locations. It uses a single nose piece to achieve high flow rates.

- Flow rate of 63L/min at 12bar system pressure
- Release Volume on valve closure of 1.9cm³
- Customer experiences a low lever pressure
- Magnet option for dispensers with reed switch technology
- New guided extended thread assists with alignment and connection to fill point
- A fine filter comes standard in all nozzles
- Long Connector Nut to access "hard to reach" fill points
- UL Listed

GG20 Nozzle

GG20H Nozzle Characteristics

Nozzle is used for industrial refueling of forklift truck cylinders and RV filler valves in similarly difficult locations. It incorporates a new "hybrid" nose piece to reduce the lever pressure experienced by the customer.

- Flow rate of 60L/min at 12bar system pressure
- Release Volume on valve closure of 1.7cm ³
- Customer experiences a lower lever pressure than GG20
- Magnet option for dispensers with reed switch technology
- New guided extended thread assists with alignment and connection to fill point
- A fine filter comes standard in all nozzles
- Long Connector Nut to access "hard to reach" fill points
- UL Listed

GG20H Nozzle

GG20DN Nozzle Characteristics

The GG20DN nozzle is suited for refueling of passenger vehicles by untrained personnel. It incorporates a patented Dual Nose piece which significantly reduces the amount of user error when operating the nozzle. It creates a positive seal to the customer's vehicles even if they have not tightly screwed the nozzle to the fill point. If the nozzle is not screwed on completely and the lever is pulled, there is no effect of flow rate as the Dual Nose piece compensates for the changed operating situation.

- Flow rate of 60L/min at 12bar system pressure
- Release Volume on valve closure of 1.7cm ³
- A Dual Nose piece for added customer safety
- Customer experiences a lower lever pressure than GG20
- Magnet option for dispensers with reed switch technology
- New guided extended thread assists with alignment and connection to fill point
- A fine filter comes standard in all nozzles
- Long Connector Nut to access "hard to reach" fill points
- UL Listed

GG20DN

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Technical Advisory

PRODUCT UPDATE
LP Gas Hose/Assemblies — Permeation

Permeation of high-pressure gas (such as LP Gas/propane, anhydrous ammonia and steam) through a rubber hose is a common but often misunderstood phenomenon. During the manufacturing process, small perforations – sometimes called pinpricks – are applied to the cover of the hose. The perforations allow a path for the gas to safely permeate through the hose wall and into the atmosphere. Without this path, undesirable amounts of gas could accumulate in the hose body, blistering the cover and leading to premature hose failure.

The permeation process is invisible in most circumstances. However, when the hose is moist or sits in water, bubbles may be observed emerging from the pinprick holes in the cover. Or bubbles may be observed slowly escaping from the area where the ferrule attaches to the coupling stem. These emissions may be perceived as leakage.

The most common perceived leakage is the "normal" escape of permeating gas:

- Through the hose wall. The pinprick holes concentrate the permeation to specific areas of the cover. Due to the presence of moisture, this concentration of permeation may be observed as bubbling.
- Through the interface of the ferrule and coupling. In some instances the permeating gas may travel down the reinforcement of the hose and escape from the end of the hose encased by the coupling.

Another common perceived leakage is the escape of air from the hose reinforcement through the hose wall, most commonly noticed during the pressure testing of a hose assembly. During the manufacturing process, air may become trapped in the reinforcement of the hose. During the hose assembly testing process, the trapped air may be squeezed through the pinprick holes in the cover, or from the end of the hose encased by the coupling. In the presence of moisture, the venting air may be apparent as bubbling. The escape of trapped air through the pinprick holes and/or at the coupling should diminish over time, and should disappear after one to four hours of pressurization. Generally, air escaping from the pinprick holes will dissipate much more rapidly than air escaping at the coupling.

The question that remains: *How can one differentiate between a hose that is leaking or excessively permeating LP Gas, a hose that is appropriately permeating LP Gas, and a hose that is venting trapped air?*

When testing a new LP Gas hose assembly, only escaping air can be mistaken for leakage (because propane has not yet entered the hose). Two methods for assuring that the escaping air is not from a leak are:

1) Use water as the test media. A "true" leak will be a water leak and not an air leak.
2) Increase the test time. A test of sufficient duration will allow the escaping air to be purged. Note:
    a. The use of a rubber cement or epoxy to seal the hose end may eliminate air escaping from the stem/ferrule lock-on area of the coupling.
    b. The Parker 7661-LAR coupling in the 1-inch size is designed to prevent gas from escaping from the stem/ferrule lock-on area of the coupling.

When testing a hose in service, it is much more difficult to differentiate between a "true" leak and normal permeation. Generally, leaking propane will create a frosting or icing on the surface of the hose or coupling. On the other hand, permeation is generally at such a low rate that it can be detected only by the slow escape of bubbles. It is important to note that the rate of permeation is dependent on temperature. As the environmental temperature increases so does the rate at which the gas permeates through the hose. Therefore, on hot, rainy days, the likelihood of observing permeation is much higher. If the rate of escaping gas is enough to cause concern, the best way to determine whether a hose is leaking or not is to remove it from service and perform a hydrostatic pressure test.

In the transfer of LP Gas, the allowable permeation rate is controlled by the Underwriters Laboratories Standard UL 21 for LP Gas Hose. Per UL 21, the "Maximum Allowable Permeation Rate" for LP Gas hose is 171 cm^3/ft/hr. Testing of standard Parker LP Gas hose has produced permeation rates which are five times better than the allowed maximum.

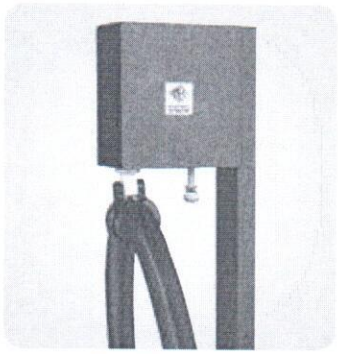
If there are any questions please contact Parker Customer Service toll-free at:

866.810.HOSE (4673)
Wickliffe, OH • Eastern USA

800.242.HOSE (4673)
South Gate, CA • Western USA

POMECO 102 Spring Balance Single Hose Retractors

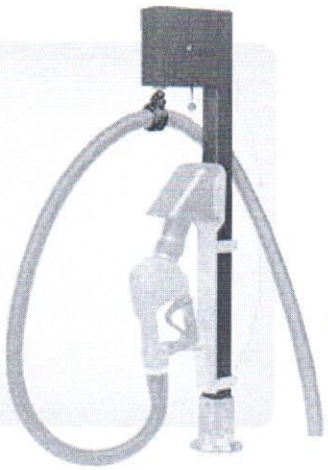
POMECO 102 Spring Balance Single Hose Retractors keep excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards. The POMECO 102 is a California Air Resources Board (CARB) certified Stage II component for use with single and dual hose dispensers as per Executive Order G-70-52-AM.



Post Mounted

Materials

Housing: Cast aluminum
Cable: Black polyester
Post: Aluminum



Nozzle Hook and Hood Kit Not Sold by OPW.

Features

- Easy to Use – the spring-loaded reel and stretch-resistant cable provide smooth and steady tension throughout hose extension and return.
- Easy to maintain – the removable sideplate provides full access to the mechanism for easy tension adjustment and unit maintenance. A convenient safety thumb screw is provided to lock the reel in place during tension adjustment.
- Field Adjustable for Various Hose, Nozzle, Swivel, Breakaway Combinations – no need for upgrading components if a breakaway or swivel is added to the hose assembly. Simply change the tension setting on the spring-loaded hose reel.
- Multiple Mounting Options – the POMECO 102 retractor housing is tapped on the top for bolting to overhead crossbars, and on the side for mounting to vertical posts. The 102 is available as a retractor kit (including post, retractor and mounting hardware) or as separate components. Models are also available for aboveground storage tank (AST) applications. AST models include a 44" (112 cm) post with a freestanding base.

102 Spring Balance Hose Retractor Instruction Sheet Order Number: **H15853PA**

NOTE: See OPW's Website at www.opwglobal.com for product instruction sheets, trouble-shooting guides, how-to-use guide and to view the Do's & Don'ts at the Gas Pump video.

Ordering Specifications

Vertical Retractor Kits (Box, Post, Bracket, Foot & Hardware)

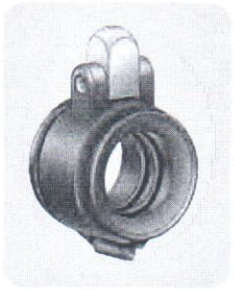
Model Number	Mounting Method	Clamp Fits	Weight	
			lbs.	kg
6102-1039P	39" Retractor/Post Kit	(Hose Clamp Not Included)	12	5.4
6102-1078P	78" Retractor/Post Kit	(Hose Clamp Not Included)	14	6.4
6102-1100	78" Retractor/Post Kit	(Hose Clamp Not Included)	14	6.4
6102-AST	AST	(Hose Clamp Not Included)	9	4.1

Ordering Specifications

Separate Retractor Components (Box Only)

Model Number	Mounting Method	Clamp Fits				Weight	
		Hose O.D.		Hose I.D.			
		in.	mm	in.	mm	lbs.	kg
6102-1000	Overhead Crossbar/Verticle Post	(Hose Clamp Not Included)				7	3.2
6102-4000	Overhead Crossbar/Verticle Post	1⅜"	35	1"	25	7	3.2
6102-6000	Overhead Crossbar	1 1/32"	26	⅝" or ¾"	16 or 19	7	3.2
6102-8000	Overhead Crossbar	1"	25	⅝"	16	7	3.2
6102-CNG	Hose Retractor Kit, CNG						
6102-CNG2	Hose Retractor Kit, CNG2						

*POMECO recommends using CO5238M, CO5261M or P100-3F/P100-44/P100-2AST for use with 102 Series retractors.
Other size tubes and clamps available upon request.



Hose Clamp

Ordering Specifications

Hose Clamps

Model Number	Hose Clamp Size †
PB-1396	Standard 1⅜" O.D. Hose (1" I.D.)
PB-1394	Standard 1⅛" O.D. Hose (¾" I.D.)
PB-1375	Standard 1 1/32" O.D.Hose (⅝" or ¾" I.D.)
PB-1373	Standard 1" O.D. Hose (⅝" I.D.)
PB-1344	Balanced Coaxial, Goodyear Premier

† Other sizes available upon request

Options Replacement Parts

Model Number	Hose Clamp Size
C05238M	Post Kit, 39"(99 cm), 1⅛" x 2"
C05261M	Post Kit, 78"(198 cm), 1⅛" x 2"
H15212M	10 ft. Replacement Cable
P338SPOOL	Spool of Retractor Cable, 338 ft.
H15210M (P102-02)	Replacement Cable Guide
H15211M	Replacement Reel
P100-3F	AST Replacement Base
P100-2AST	Sliding Bracket (AST)