

June 2, 2016

## APPROVAL DRAWINGS

### PROJECT NAME

RE-USE WATER PUMP STATION  
WICHITA, KS

### VALVE TYPE

PRESSURE RELIEF/PRESSURE SUSTAINING VALVE  
6" OCV 108-2 Pressure Relief Valve, Globe Body, Flanged Ends  
Includes Start Up

CONTRACTOR: WILDCAT CONSTRUCTION CO., INC  
3219 WEST MAY  
WICHITA, KS 67213  
719-439-4107  
MAIN CONTACT:  
Tyler J. Dehn  
Project Manager/Estimator  
tyler.dehn@wildcat.net

LOCAL SUPPLIER: MELLEEN & ASSOCIATES, INC  
3404 SOUTH 11TH ST  
COUNCIL BLUFFS, IA 51501  
712-322-9333

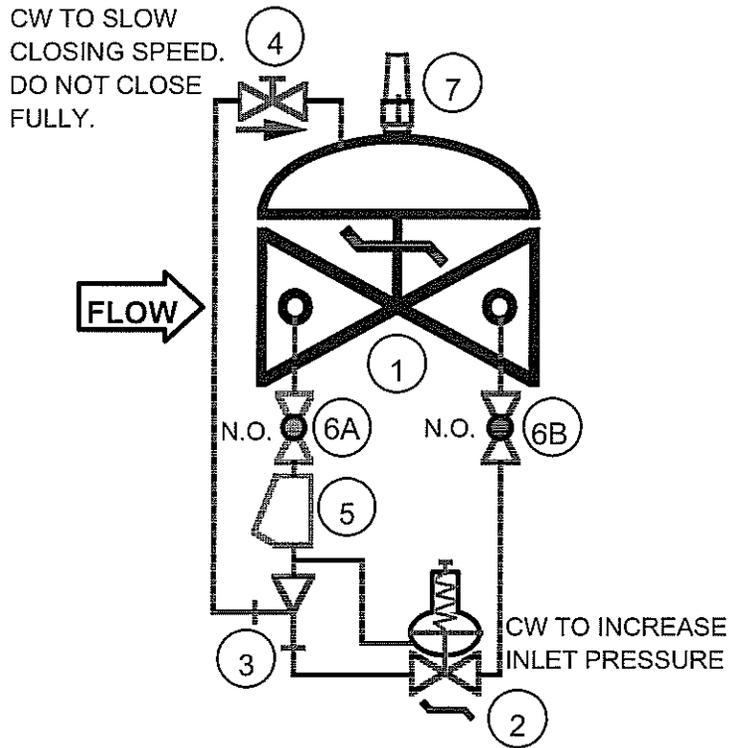
MANUFACTURER: OCV  
7400 East 42nd Place  
Tulsa, Oklahoma 74145-4744  
918-627-1942

PLEASE INDICATE WHICH SPECIFIC  
ITEMS WILL BE PROVIDED. ALSO,  
THE SET POINT MUST BE FACTORY  
SET AT 160 PSIG.

<b>MKEC ENGINEERING, INC.</b>	
<b>411 N. WEBB ROAD • WICHITA, KS 67206</b>	
<input type="checkbox"/> Reviewed	<input checked="" type="checkbox"/> Revise and Resubmit
<input type="checkbox"/> Reviewed as Noted	<input type="checkbox"/> Rejected
<input type="checkbox"/> Not Required by the Contract Documents	
<small>Reviewed for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to techniques of construction; and for coordination of the work of all trades.</small>	
BY <u>Byron 2 Babino</u>	DATE <u>6-3-16</u>

# MODEL 108-2

## PRESSURE RELIEF/PRESSURE SUSTAINING VALVE



THIS VALVE IS A DIAPHRAGM ACTUATED, PILOT OPERATED, SOFT SEATED, AUTOMATIC CONTROL VALVE DESIGNED TO CONTROL PRESSURE AT IT'S INLET. WHEN INSTALLED IN A BYPASS LINE, AN INCREASE IN PRESSURE ABOVE THE SET POINT WILL CAUSE THE VALVE TO OPEN AND MODULATE AS NEEDED TO PREVENT OVERPRESSURIZATION IN THE MAIN SYSTEM LINE. THE VALVE WILL CLOSE AND RESEAT IF THE PRESSURE FALLS TO 90% OF THE SET POINT.

ITEM	PART NO.	QTY	DESCRIPTION
1	65	1	BASIC VALVE ASSEMBLY
2	1330	1	PRESSURE RELIEF PILOT
3	126	1	EJECTOR
4	141-3	1	FLOW CONTROL VALVE (Closing Speed Control)
5	159	1	Y-STRAINER
6	141-4	2	ISOLATION BALL VALVE
7	155	1	VISUAL INDICATOR (OPTIONAL)



Global performance. Personal touch.

# MATERIALS OF CONSTRUCTION

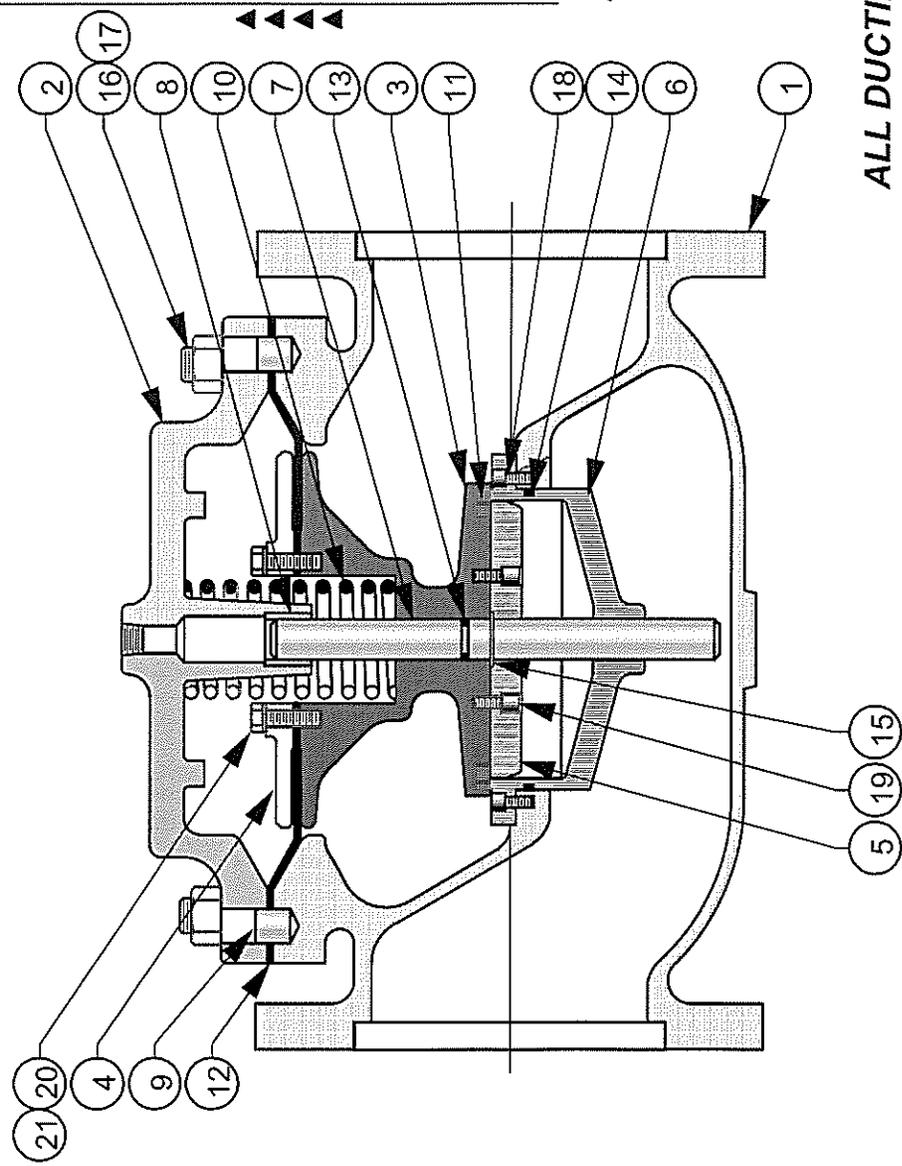
DATE 6/2/16

OCV CONTROL VALVE MODEL <b>108-2</b>		SIZE <b>6"</b>	<input checked="" type="checkbox"/> <b>GLOBE</b> <input type="checkbox"/> <b>ANGLE</b>	
<b>MAIN VALVE BODY &amp; BONNET</b>	<input checked="" type="checkbox"/> DUCTILE IRON, ASTM A536, 65-45-12 ✓	<input type="checkbox"/> CAST ALUMINUM, ASTM B26 356-T6		
	<input type="checkbox"/> CAST STEEL, <input type="checkbox"/> ASTM A216, GR WCB <input type="checkbox"/> ASTM A352, GR LCB	<input type="checkbox"/> NICKEL ALUMINUM BRONZE, ASTM B148 C95800		
	<input type="checkbox"/> STAINLESS STEEL, ASTM A351, GRADE CF8M	<input type="checkbox"/>		
<b>END FLANGES/ RATINGS</b>	<input checked="" type="checkbox"/> ANSI B16.42, CLASS 150, FLAT FACE, 250 PSI MAX W.P. ✓	<input type="checkbox"/> ANSI B16.5, CLASS 300, RAISED FACE, 740 PSI MAX W.P.		
	<input type="checkbox"/> ANSI B16.42, CLASS 300, RAISED FACE, 640 PSI MAX W.P.	<input type="checkbox"/> ANSI B2.1, SCREWED ENDS, (FEMALE NPT), 640 PSI MAX W.P.		
	<input type="checkbox"/> ANSI B16.5, CLASS 150, RAISED FACE, 285 PSI MAX W.P.	<input type="checkbox"/>		
<b>SEAT RING</b>	<input checked="" type="checkbox"/> CAST BRONZE, ASTM B584 C89836 ✓	<input type="checkbox"/> NICKEL ALUM. BRONZE, ASTM B148 C95800		
	<input type="checkbox"/> CAST STAINLESS STEEL, ASTM A351, GR CF8M	<input type="checkbox"/> MONEL, ASTM B464		
<b>STEM'S</b>	<input checked="" type="checkbox"/> STAINLESS STEEL, AISI 303	<input type="checkbox"/> STAINLESS STEEL, 316		
	<input type="checkbox"/> MONEL, AST, B464	<input type="checkbox"/>		
<b>TUBING &amp; TUBE FITTINGS</b>	<input checked="" type="checkbox"/> COPPER TUBING, BRASS TUBE FITTINGS	<input type="checkbox"/> MONEL TUBING & TUBE FITTINGS		
	<input type="checkbox"/> STN. STL TUBING & TUBE FITTINGS, 316/316L	<input type="checkbox"/>		
<b>PIPE FITTINGS</b>	<input checked="" type="checkbox"/> BRONZE/BRASS PIPE FITTINGS ✓	<input type="checkbox"/> MONEL PIPE FITTINGS		
	<input type="checkbox"/> STN. STEEL PIPE FITTINGS	<input type="checkbox"/>		
<b>STUDS/NUTS/PLUGS</b>	<input checked="" type="checkbox"/> CAD PLATED STEEL STUDS/NUTS/PIPE PLUGS	<input type="checkbox"/> DRAIN PLUGS – STAINLESS STEEL		
	<input type="checkbox"/> STN. STEEL STUDS/NUTS/PIPE PLUGS	<input type="checkbox"/>		
<b>DIAPHRAGM &amp; SEAT DISC</b>	<input type="checkbox"/> BUNA-N	<input type="checkbox"/> VITON		
	<input checked="" type="checkbox"/> EPDM ✓	<input type="checkbox"/>		
<b>PILOT BODIES</b>	<input checked="" type="checkbox"/> BRONZE, ASTM B584 C89836 ✓	<input checked="" type="checkbox"/> 1330 PRESSURE RELIEF PILOT ✓		
	<input type="checkbox"/> STAINLESS STEEL, ASTM A351, GR CF8M	<input type="checkbox"/>		
<b>STRAINER</b>	<input checked="" type="checkbox"/> BRONZE Y-TYPE ✓ <input type="checkbox"/> SS Y-TYPE	<input type="checkbox"/>		
	<input type="checkbox"/> SS INLINE-TYPE <input type="checkbox"/> SS HIGH CAPACITY (170)	<input type="checkbox"/>		
<b>BALL VALVES</b>	<input type="checkbox"/> SS	<input checked="" type="checkbox"/> BRASS <i>2, or BRONZE</i> <input type="checkbox"/>		
<b>NEEDLE/FLOW VALVES</b>	<input type="checkbox"/> SS	<input checked="" type="checkbox"/> BRASS <input type="checkbox"/>		
<b>ELECTRICAL (WHEN APPLICABLE) SOLENOIDS</b>	<b>BODIES</b>	<b>ENCLOSURE</b>	<b>SOLENOID ACTUATION</b>	<b>BRAND/MODEL</b>
	<input type="checkbox"/> BRASS	<input type="checkbox"/> GENERAL PURPOSE, TYPE 1, 3, 4 AND 4X	<input type="checkbox"/> ENERGIZE TO OPEN	<input type="checkbox"/>
	<input type="checkbox"/> SS	<input type="checkbox"/> EXPLOSION PROOF, TYPE 4, 4X, 7 & 9	<input type="checkbox"/> ENERGIZE TO CLOSE	<input type="checkbox"/>
<b>AC VOLTAGES/ RATINGS</b>	<input type="checkbox"/> 120V, 60Hz/ 110V, 50Hz	<input type="checkbox"/> 480V, 60Hz/ 440V, 50Hz		
	<input type="checkbox"/> 240V, 60Hz/ 220V, 50Hz	<input type="checkbox"/> 24V, 60Hz		
<b>DC VOLTAGES</b>	<input type="checkbox"/> 6V	<input type="checkbox"/> 12V	<input type="checkbox"/> 24V	<input type="checkbox"/> 120V <input type="checkbox"/> 240V
<b>LIMIT SWITCHES</b>	<b>ACTION</b>	<b>HOUSING</b>		
	<input type="checkbox"/> SPDT	<input type="checkbox"/> WEATHERPROOF		
	<input type="checkbox"/> DPDT	QUANTITY	<input type="checkbox"/> EXPLOSION-PROOF	
<b>OTHER OPTIONS</b>	<input type="checkbox"/> VISUAL INDICATOR, SS	<input checked="" type="checkbox"/> APPROVED FOR FRESHWATER SERVICE		
	<input checked="" type="checkbox"/> EPOXY COATING, STD 3-5 MILS, INSIDE/OUTSIDE ✓	<input checked="" type="checkbox"/> BLUE NSF61 EXTERIOR COATING		
	<input type="checkbox"/> EPOXY COATING, SPCL 10-12 MILS, INSIDE/OUTSIDE	<input checked="" type="checkbox"/> STAINLESS STEEL SERIAL TAGS		
	<input type="checkbox"/> EPOXY-COATING, SPCL. ABRANON, INSIDE 10-12 MILS. DIMETKOTE, OUTSIDE 10-12 MILS, (SEAWATER)	<input checked="" type="checkbox"/> NSF61 CERTIFIED		
		<input type="checkbox"/>		
<b>FLUID TEMPERATURE</b>	MINIMUM: 32 <input checked="" type="checkbox"/> °F <input type="checkbox"/> °C		MAXIMUM: 230 <input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	

ITEM	PART NO.	QTY	DESCRIPTION	MATERIAL
1		1	BODY	DUCT. IRON
2		1	BONNET	DUCT. IRON
3		1	SPOOL	DUCT. IRON
4		1	DIAPHRAGM PLATE	DUCT. IRON
5		1	SEAT RETAINER	*DUCT. IRON
6		1	SEAT RING	BRONZE
7		1	STEM	STN. STEEL
8		1	UPPER BUSHING	BRONZE
9		2	DOWEL PIN	STN. STEEL
10		1	SPRING	STN. STEEL
11		1	SEAT DISC	EPDM
12		1	DIAPHRAGM	NYL/NEPDM
13		1	O-RING	EPDM
14		1	O-RING	EPDM
15		1	SNAP RING	STN. STEEL
16		A/R	STUD	ZINC PL. STL.
17		A/R	HEX NUT	ZINC PL. STL.
18		A/R	CAPSCREW	STN. STEEL
19		A/R	CAPSCREW	STN. STEEL
20		A/R	CAPSCREW	STN. STEEL
21		A/R	LOCK WASHER	STN. STEEL

▲ = RECOMMENDED SPARE PARTS  
(INCLUDED IN REPAIR KIT)

\*ITEM 5 SEAT RETAINERS ARE STN STL  
ON SIZES 1.25" THRU 8".

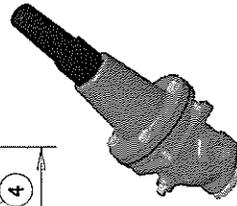
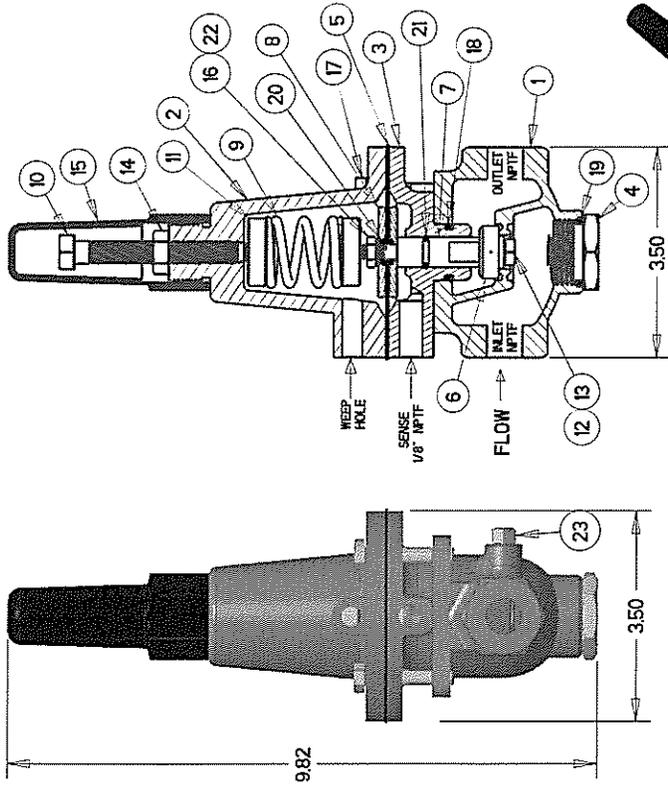


**ALL DUCTILE IRON PARTS ARE EPOXY COATED**

 <b>TULSA, OKLAHOMA U.S.A.</b>		<b>TOLERANCES</b>		N/A	
		<b>MATERIAL</b>		DIBT (DUCTILE IRON BRONZE TRIM) EPDM RUBBER	
<b>REVISIONS</b>		<b>NO. REQ'D</b>		DRAWN BY RON	
CHG. E.C. NO. DATE BY		SCALE NONE		DATE 2-12-14	
REF DWG NO'S		CHKD. BY		DATE	
SIZE		DRAWING NUMBER		REV.	
<b>A</b>		<b>BV</b>			



SPRING CHART			
PART NUMBER	SPRING RANGE	SPRING COLOR	SPRING RETAINER QTY
651701	5-30 PSI	GREEN	QTY 2
651703 (ROUND WIRE)	20-80	RED	QTY 2
651000 (SQUARE WIRE)	20-200	RED	QTY 1
651704	65-180	YELLOW	QTY 2
651702	100-300 PSI	BLUE	QTY 2



ITEM	PART NO.	QTY	DESCRIPTION	MATERIAL
12	531700	1	HEX HEAD CAPSCREW	18-8 STN STEEL
	531748			316 STN STEEL
	531001			MONEL
13	685760	1	LOCK WASHER	302 STN STEEL
	685767			316 STN STEEL
14	590717	1	HEX NUT	18-8 STN STEEL
	590720			316 STN STEEL
	692002		CAP	PVC
	590712			18-8 STN STEEL
	590714		HEX NUT	316 STN STEEL
	590014			MONEL
17	531701	4	HEX NUT CAPSCREW	18-8 STN STEEL
	531711			316 STN STEEL
18	61116	1	O-RING	VITON
	610912			EPDM
	610912		O-RING	BUNA-N
	610912			VITON
	614912			EPDM
20	61010	2	O-RING	VITON
	614010			EPDM
21	61012	1	O-RING	VITON
	614012			EPDM
22	685700	1	LOCK WASHER	410 STN STL
	685722			316 STN STEEL
	556000			ZINK PL STL
23	556707	1	PIPE PLUG	316 STN STEEL
	556009			MONEL

□ - 651000 SPRING USES QTY 1 (PN 300775) 303 SS SPRING RETAINER. ALL OTHER SPRINGS USE QTY 2 RETAINER'S AS SHOWN IN MAIN TABLE

△ - RECOMMENDED SPARE PARTS (INCLUDED IN RUBBER REPAIR KITS)  
 BUNA KIT: 930000  
 VITON-F KIT 930100F  
 EPDM KIT: 930400

FOR OTHER KITS OR PARTS:  
 PLEASE CONTACT OCV @ 1-888-628-8258

APPROVALS AVAILABLE FOR SPECIFIC ASSEMBLIES:  
 - UL, ABS, PED, NSF-61

ITEM	PART NO.	QTY	DESCRIPTION	MATERIAL
	302102S		3/8" NPTF	LOW LEAD BRONZE
	302104		1/2" NPTF	
	302702		3/8" NPTF	CF8M STN STEEL
	302704		1/2" NPTF	
	302702DSS		3/8" NPTF	DUPLEX STN STEEL
	302704DSS		1/2" NPTF	
1	302702L	1	BODY	316L STN STEEL
	302704L			
	302732AL20		1/2" NPTF	ALLOY 20 STN STEEL
	302103		1/2" NPTF	NICKEL ALUM BRZ
	304102S			LOW LEAD BRONZE
2	304702DSS	1	BONNET	DUPLEX STN STEEL
	304702L			316L STN STEEL
	304702AL20			ALLOY 20 STN STEEL
	304107			NICKEL ALUM BRZ
	300719			LOW LEAD BRONZE
	300729S			303 STN STEEL
3	320730	1	ADAPTOR	316 STN STEEL
	300719L			DUPLEX STN STEEL
	300192			316L STN STEEL
	310730			NICKEL ALUM BRZ
4	310741		PLUG	303 STN STEEL
	692005			MONEL
	694002			BUNA/NYLON
	694016			VITON-F/NYLON
5	694023	1	DIAPHRAGM	EPDM/NYLON
	694302			TEFLON
	310703			FLUOROSILICONE/NYLON
	310744			303 STAINLESS
	310717			316 STN STEEL
	310709			MONEL
	310742			303 STAINLESS
6	310739	1	SEAT DISC	316 STN STEEL
	310707			MONEL
	310740			303 STAINLESS
	310007			316 STN STEEL
	310803			MONEL
	310804			303 STN STEEL
	314702			MONEL
7	314752	1	STEM	303 STN STEEL
	314702L			316 STN STEEL
	314002			MONEL
8	308702	2	DIAPHRAGM PLATE	303 STN STEEL
	308713			316 STN STEEL
	308000			MONEL
9	SEE CHART	1	SPRING	302 STN STEEL (STD)
	300700			ELGILOY/MP35N (SPCL)
10	300800	1	ADJUSTING SCREW	303 STN STEEL
	300600			316 STN STEEL
	300729			MONEL
11	320735	SEE NOTE	SPRING RETAINER	303 STN STEEL
	300096			316 STN STEEL
	320096			MONEL (SPCL)

## OCV Control Valves

TULSA OKLAHOMA USA

MODEL 1330 PILOT 3/8" - 1/2 NPT  
 PRESSURE RELIEF PILOT

MATERIAL	TOLERANCES
	UNLESS NOTED
	XX ±.05
	XXX ±.005
	ANGULAR ±0.5°
	MACH FINISH 25
NO. BEAD	DATE
SCALE	CHKD. BY
REV	DATE

1330

B

0.500

REF DWG NO'S

REVISIONS

CHG

ECN

DATE

BY

REV

NO.

DATE

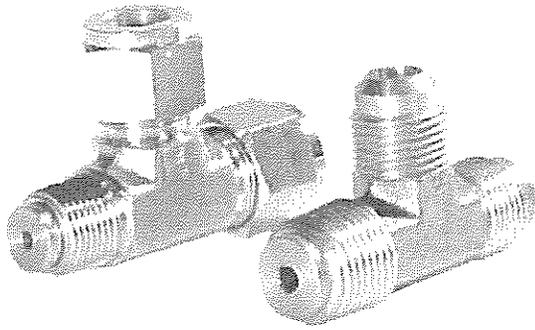
BY

NO.

DATE

BY

**DESCRIPTION**



**MODEL 126 EJECTOR**  
 The Model 126 ejector is a simple tee fitting with a fixed orifice in its inlet port. It provides the proper supply pressure to the main valve diaphragm chamber, allowing various two-way control pilots to control the valve position.

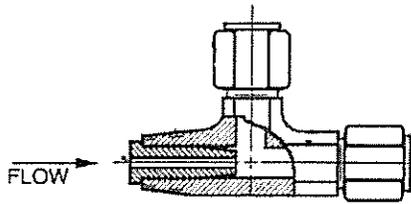
**MODEL 126 EJECTOR DIAGRAM**

Brass Construction / Stainless Steel Construction

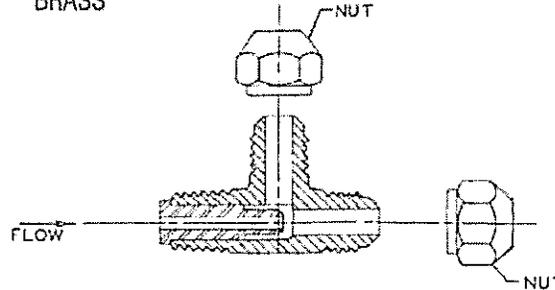
MATERIAL	PART NUMBER	P (NPT)	T-TUBE O.D.	STD. ORIFICE	USED ON VALVE SIZES
Brass	213100	3/8"	3/8"	.125"	1 1/4"-6"
Brass	214100	1/2"	1/2"	.188"	8"-10"
Brass	215100	3/4"	3/4"	.188"	12"-16"
316 Stn. Steel	213700	1/4"	3/8"	.090"	1 1/4"-6"
316 Stn. Steel	214700	3/8"	1/2"	.125"	8"-10"
316 Stn. Steel	215700	1/2"	3/4"	.188"	12"-16"

Orifice bushings are stainless steel.

STAINLESS

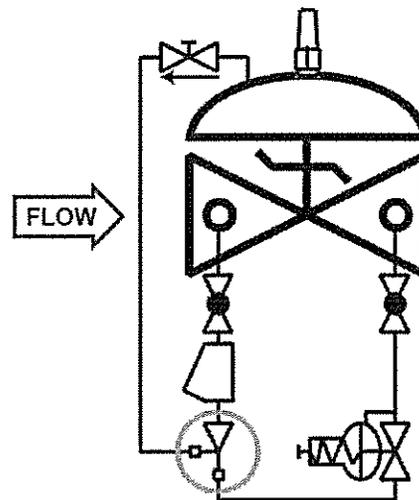
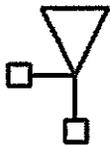


BRASS



**SCHEMATIC SYMBOL**

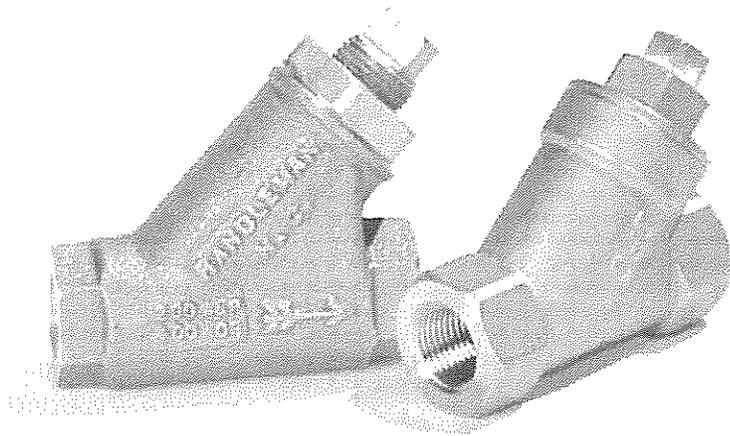
The Model 126 Ejector is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a MODEL 127-3 Pressure Reducing Valve

WHY OWE?

Ejector 126



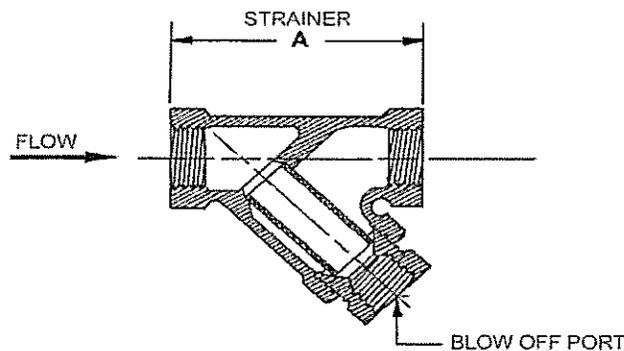
**DESCRIPTION**

**MODEL 159 Y-STRAINER**  
 The 159 Y-Strainer installs in the inlet piping of the pilot system and protects the pilot system from solid contaminants in the line fluid. It is the standard strainer for water service valves.

**MODEL 159 Y-STRAINER MATRIX**

MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	BLOW OFF PORT (NP)	A	STD. MESH	USED ON VALVE SIZE
Bronze	660100	3/8	3/8	2 11/16	24	1 1/2"-6"
Bronze	660101	1/2	3/8	2 5/8	24	8"-10"
Bronze	660102	3/4	3/8	3 5/16	24	12"-16"
Stn. Steel	660700	3/8	1/4	2 1/2	20	1 1/2"-6"
Stn. Steel	660701	1/2	1/4	2 1/2	20	8"-10"
Stn. Steel	660702	3/4	1/4	3 1/8	20	12"-16"

W/ HCH-ONEZ

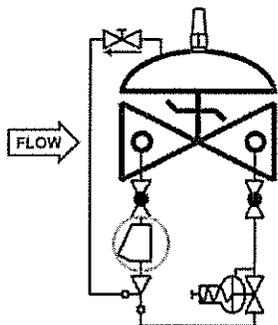


**MATERIALS**

Bronze, ASTM B62  
 Optional mesh sizes: 50, 100  
 Stainless Steel, CF8-M (316)  
 Optional mesh sizes: 60, 80, 100  
 Screens are stainless steel

**SCHEMATIC SYMBOL**

The Model 159 Y-Strainer is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a MODEL 127-3 Pressure Reducing Valve

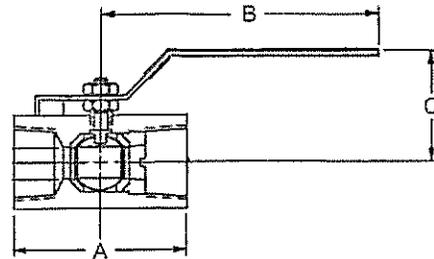
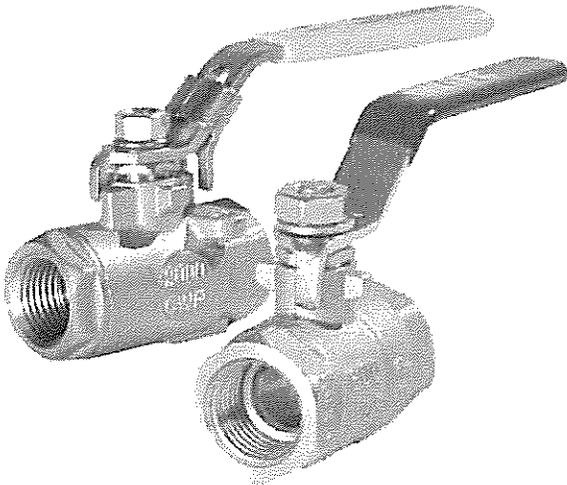
**MAINTENANCE**

Routine cleaning and checking of the Y-Strainer will aid in keeping the control valve functioning properly. Pilot system isolation ball valves are supplied on valves equipped with the Model 159 Y-Strainer. These allow flushing of the screen through the blow off port, or removal of the screen itself for manual cleaning.

**DESCRIPTION**

The Model 141-4 Ball Valve is a 1/4-turn shutoff device used for isolating the pilot system from the main valve. They are extremely useful for performing routine maintenance and troubleshooting.

Ball valves are standard on water service valves; optional on fuel service valves.

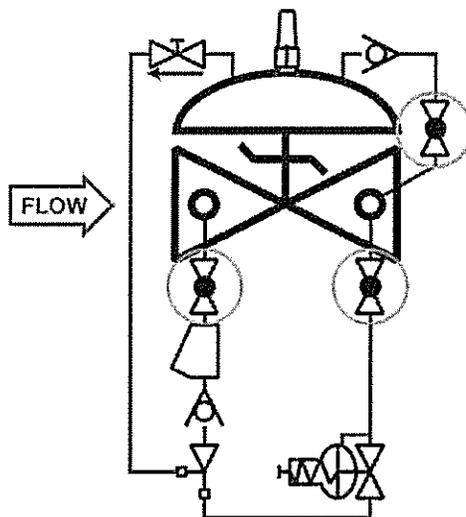


**MODEL 141-4 MATRIX**

MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	A	B	C	USED ON VALVE SIZE*
Bronze	680100	3/8	1 3/4	3 1/2	1 7/8	1 1/4"-6"
Bronze	680101	1/2	2	3 1/2	2 1/4	8"-10"
Bronze	680102	3/4	3	4 3/4	2 1/4	12"-16"
Stn. Steel	680700	3/8	2	3 3/4	2 1/8	1 1/4"-6"
Stn. Steel	680701	1/2	2 1/4	3 3/4	2 1/2	8"-10"
Stn. Steel	680702	3/4	3	4 3/4	2 1/4	12"-16"

WHICH ONE?

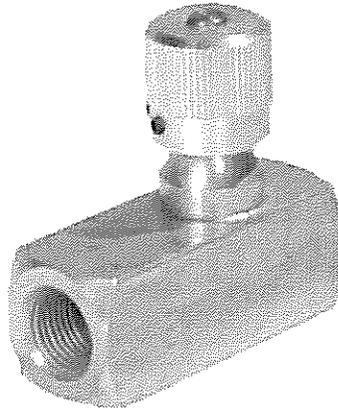
**SCHEMATIC SYMBOL**



The Model 141-4 Ball Valve is shown on OCV Valve Schematics as:

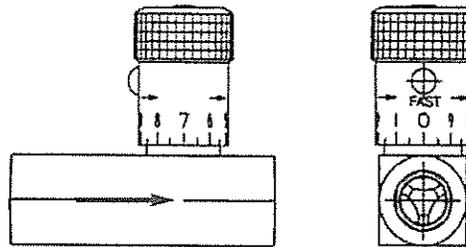


EXAMPLE: Shown here on a MODEL 127-4 Pressure Reducing / Check Valve.



**DESCRIPTION**

The Model 141-3 Flow Control Valve is an adjustable restriction device, installed in the control circuit tubing. The flow control valve differs from a standard needle valve in that it includes an internal check valve. Thus it allows free flow in one direction (through the check) and restricted flow in the other direction (through the needle). The setting of the flow control valve meters the flow into or out of the main valve diaphragm chamber, thus controlling either the opening or closing speed of the main valve. These can be installed in series for separate opening and closing speed control. Restricted flow is in the direction of the flow arrow on the body.



**MODEL 141-3 MATRIX**

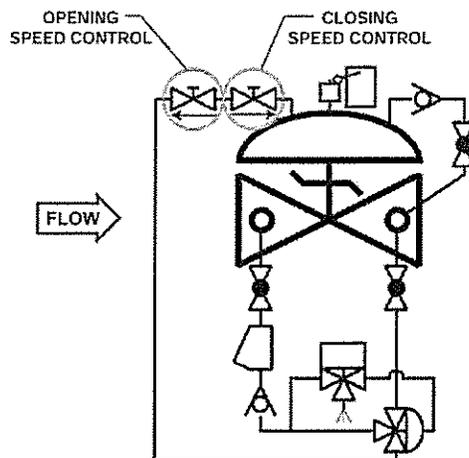
MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	A	USED ON VALVE SIZE*
Brass	682100	1/4	2 3/8	1 1/4"-2"
Brass	682101	3/8	2 3/4	2 1/2"-6"
Brass	682102	1/2	3 1/4	8"-10"
Brass	682103	3/4	3 7/8	12"-16"
Stn. Steel	682700	1/4	2 3/8	1 1/4"-2" Stn.
Stn. Steel	682701	3/8	2 3/4	2 1/2"-6"
Stn. Steel	682702	1/2	3 1/4	8"-10"
Stn. Steel	682703	3/4	3 5/8	12"-16"

Note: Flow control valve use and size may vary on valve application. Consult factory.

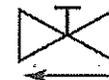
WHICH ONE?

Flow Control Valves 141-3

**SCHEMATIC SYMBOL**



The Model 141-3 Flow Control Valve is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a MODEL 125 Pump Control Valve as separate opening and closing speeds.