



SUBMITTAL ID: 012-R1

Project Owner: City of Wichita
Project Title: Re-Use Water PS (to serve Spirit AeroSystems)
Project Number: Wildcat Job 7127 / COW 468-85112
Subject: OCV Pressure Relief

Manufacturer/Supplier: OCV/Mellen & Associates

Specification Section: Pressure Relief Valves

Submitted By: Tyler Dehn - Wildcat Construction Co., Inc.

SUBMITTAL DATA	
<input checked="" type="checkbox"/>	FOR APPROVAL
<input type="checkbox"/>	REVIEWED
<input type="checkbox"/>	REVIEWED AS NOTED
<input type="checkbox"/>	REVISE AND RESUBMIT
FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS.	
DATE <u>6-7-2016</u>	BY <u>Tyler Dehn</u>
WILDCAT CONSTRUCTION CO., INC.	

MKEC ENGINEERING, INC.	
411 N. WEBB ROAD • WICHITA, KS 67206	
<input checked="" type="checkbox"/>	Reviewed
<input type="checkbox"/>	Revise and Resubmit
<input type="checkbox"/>	Reviewed as Noted
<input type="checkbox"/>	Rejected
<input type="checkbox"/> Not Required by the Contract Documents	
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.	
BY <u>Byrce 2 Barkin</u>	DATE <u>6-8-16</u>

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

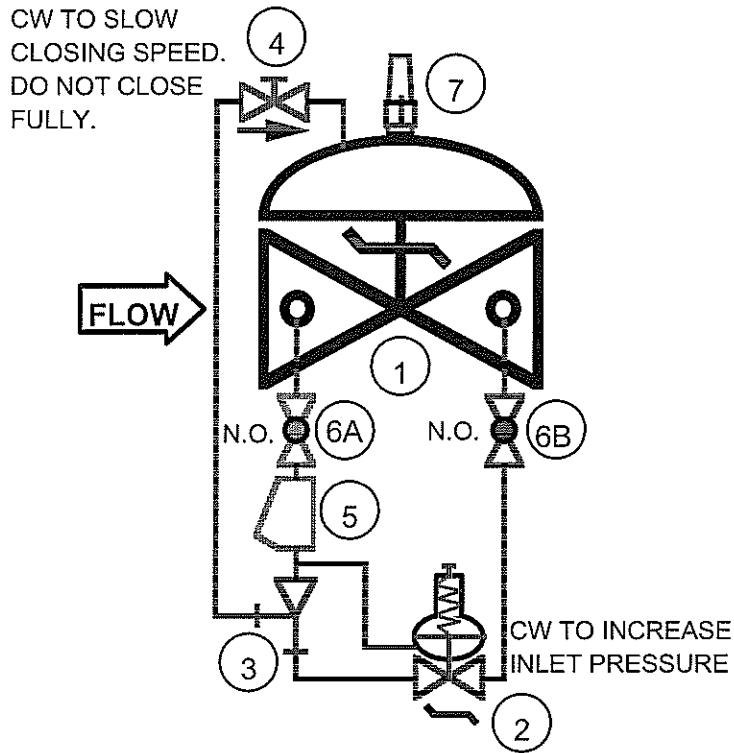
CONTRACTOR: WILDCAT CONSTRUCTION CO., INC
3219 WEST MAY
WICHITA, KS 67213
719-439-4107
MAIN CONTACT:
Tyler J. Dehn
Project Manager/Estimator
tyler.dehn@wildcat.net

LOCAL SUPPLIER: MELLEN & 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

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 108-2

SIZE 6" ✓

GLOBE ANGLE

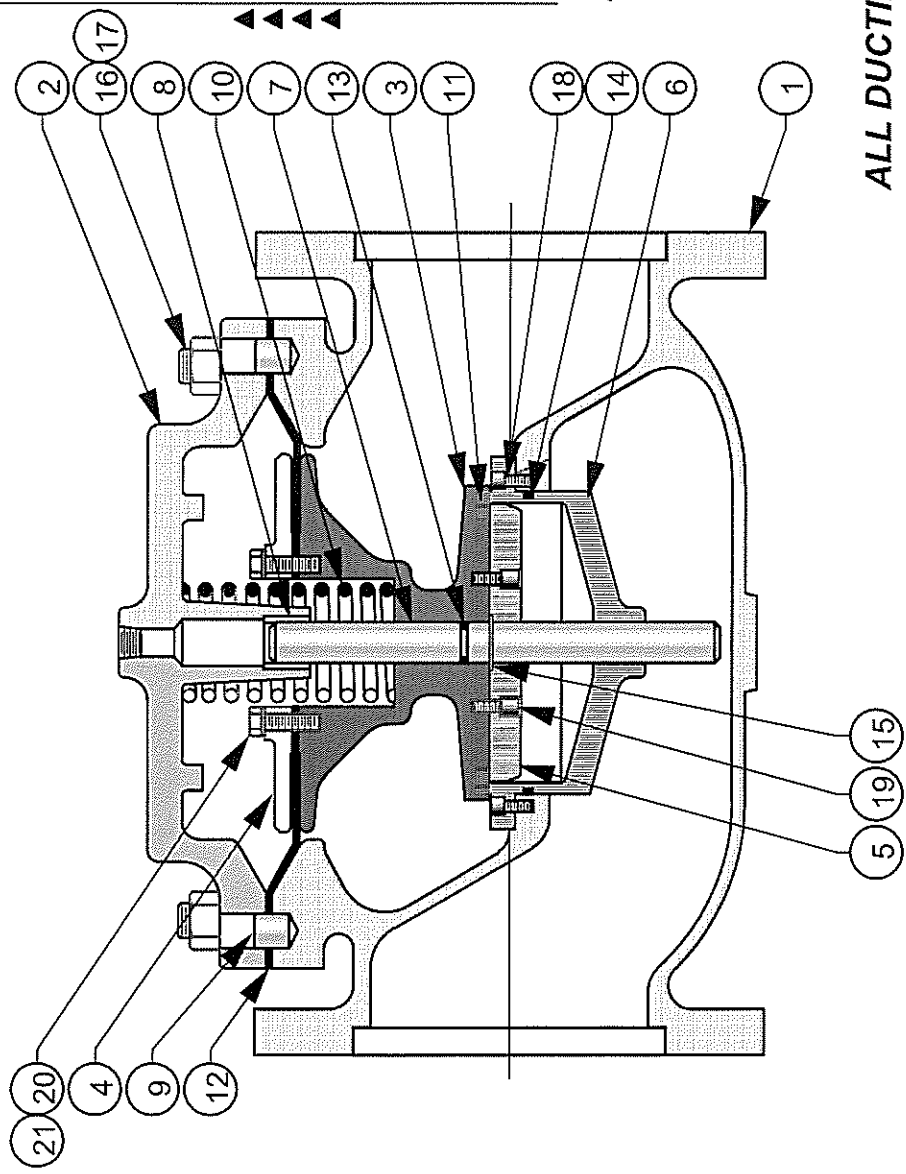
MAIN VALVE BODY & BONNET	<input checked="" type="checkbox"/> DUCTILE IRON, ASTM A536, 65-45-12 ✓	<input type="checkbox"/> CAST ALUMINUM, ASTM B26 356-T6		
	<input type="checkbox"/> CAST STEEL, <input type="checkbox"/> ASTM A216, GR WCB <input type="checkbox"/> ASTM A352, GR LCB	<input type="checkbox"/> NICKEL ALUMINUM BRONZE, ASTM B148 C95800		
	<input type="checkbox"/> STAINLESS STEEL, ASTM A351, GRADE CF8M	<input type="checkbox"/>		
END FLANGES/ RATINGS	<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"/>		
SEAT RING	<input checked="" type="checkbox"/> CAST BRONZE, ASTM B584 C89836 ✓ <input type="checkbox"/> CAST STAINLESS STEEL, ASTM A351, GR CF8M	<input type="checkbox"/> NICKEL ALUM. BRONZE, ASTM B148 C95800 <input type="checkbox"/> MONEL, ASTM B464		
STEM'S	<input checked="" type="checkbox"/> STAINLESS STEEL, AISI 303 <input type="checkbox"/> MONEL, AST, B464	<input type="checkbox"/> STAINLESS STEEL, 316 <input type="checkbox"/>		
TUBING & TUBE FITTINGS	<input checked="" type="checkbox"/> COPPER TUBING, BRASS TUBE FITTINGS <input type="checkbox"/> STN. STL TUBING & TUBE FITTINGS, 316/316L	<input type="checkbox"/> MONEL TUBING & TUBE FITTINGS <input type="checkbox"/>		
PIPE FITTINGS	<input checked="" type="checkbox"/> BRONZE/BRASS PIPE FITTINGS ✓ <input type="checkbox"/> STN. STEEL PIPE FITTINGS	<input type="checkbox"/> MONEL PIPE FITTINGS <input type="checkbox"/>		
STUDS/NUTS/PLUGS	<input checked="" type="checkbox"/> CAD PLATED STEEL STUDS/NUTS/PIPE PLUGS <input type="checkbox"/> STN. STEEL STUDS/NUTS/PIPE PLUGS	<input type="checkbox"/> DRAIN PLUGS – STAINLESS STEEL <input type="checkbox"/>		
DIAPHRAGM & SEAT DISC	<input type="checkbox"/> BUNA-N <input checked="" type="checkbox"/> EPDM ✓	<input type="checkbox"/> VITON <input type="checkbox"/>		
PILOT BODIES	<input checked="" type="checkbox"/> BRONZE, ASTM B584 C89836 ✓ <input type="checkbox"/> STAINLESS STEEL, ASTM A351, GR CF8M	<input checked="" type="checkbox"/> 1330 PRESSURE RELIEF PILOT ✓		
STRAINER	<input checked="" type="checkbox"/> BRONZE Y-TYPE ✓ <input type="checkbox"/> SS Y-TYPE <input type="checkbox"/> SS INLINE-TYPE <input type="checkbox"/> SS HIGH CAPACITY (170)	<input type="checkbox"/>		
BALL VALVES	<input type="checkbox"/> SS <input checked="" type="checkbox"/> BRONZE ✓	<input type="checkbox"/>		
NEEDLE/FLOW VALVES	<input type="checkbox"/> SS <input checked="" type="checkbox"/> BRASS	<input type="checkbox"/>		
ELECTRICAL (WHEN APPLICABLE) SOLENOIDS	BODIES <input type="checkbox"/> BRASS <input type="checkbox"/> SS	ENCLOSURE <input type="checkbox"/> GENERAL PURPOSE, TYPE 1, 3, 4 AND 4X <input type="checkbox"/> EXPLOSION PROOF, TYPE 4, 4X, 7 & 9	SOLENOID ACTUATION <input type="checkbox"/> ENERGIZE TO OPEN <input type="checkbox"/> ENERGIZE TO CLOSE	BRAND/MODEL <input type="checkbox"/> <input type="checkbox"/>
	AC VOLTAGES/ RATINGS	<input type="checkbox"/> 120V, 60Hz/ 110V, 50Hz <input type="checkbox"/> 240V, 60Hz/ 220V, 50Hz	<input type="checkbox"/> 480V, 60Hz/ 440V, 50Hz <input type="checkbox"/> 24V, 60Hz	
DC VOLTAGES	<input type="checkbox"/> 6V <input type="checkbox"/> 12V <input type="checkbox"/> 24V	<input type="checkbox"/> 120V <input type="checkbox"/> 240V		
LIMIT SWITCHES	ACTION <input type="checkbox"/> SPDT <input type="checkbox"/> DPDT	QUANTITY	HOUSING <input type="checkbox"/> WEATHERPROOF <input type="checkbox"/> EXPLOSION-PROOF	
	OTHER OPTIONS	<input type="checkbox"/> VISUAL INDICATOR, SS <input checked="" type="checkbox"/> EPOXY COATING, STD 3-5 MILS, INSIDE/OUTSIDE ✓ <input type="checkbox"/> EPOXY COATING, SPCL 10-12 MILS, INSIDE/OUTSIDE <input type="checkbox"/> EPOXY-COATING, SPCL. ABRANON, INSIDE 10-12 MILS. DIMETKOTE, OUTSIDE 10-12 MILS, (SEAWATER)	<input checked="" type="checkbox"/> APPROVED FOR FRESHWATER SERVICE <input checked="" type="checkbox"/> BLUE NSF61 EXTERIOR COATING <input checked="" type="checkbox"/> STAINLESS STEEL SERIAL TAGS <input checked="" type="checkbox"/> NSF61 CERTIFIED <input checked="" type="checkbox"/> PILOT FACTORY SETPOINT = 160 PSI ✓	<input type="checkbox"/>
FLUID TEMPERATURE	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/EPDM
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

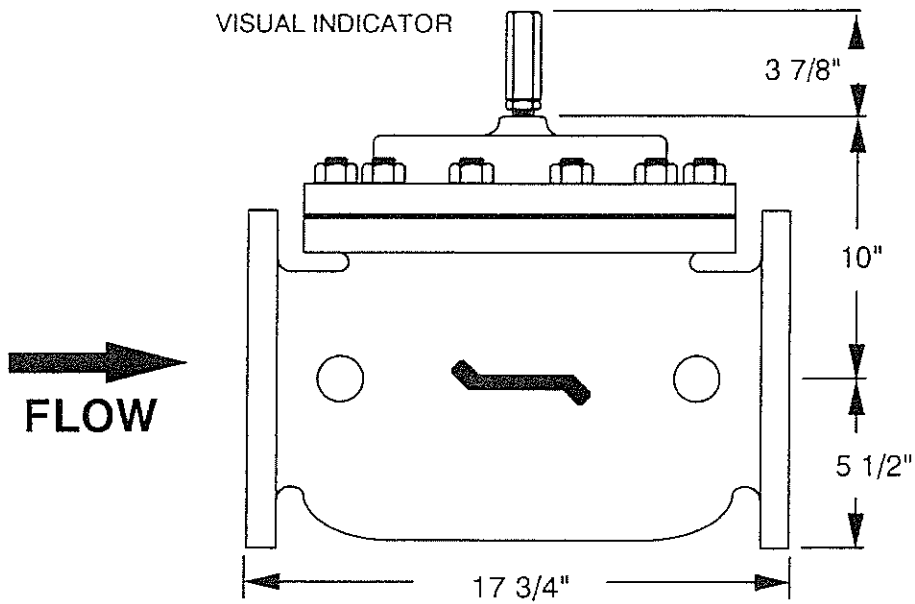
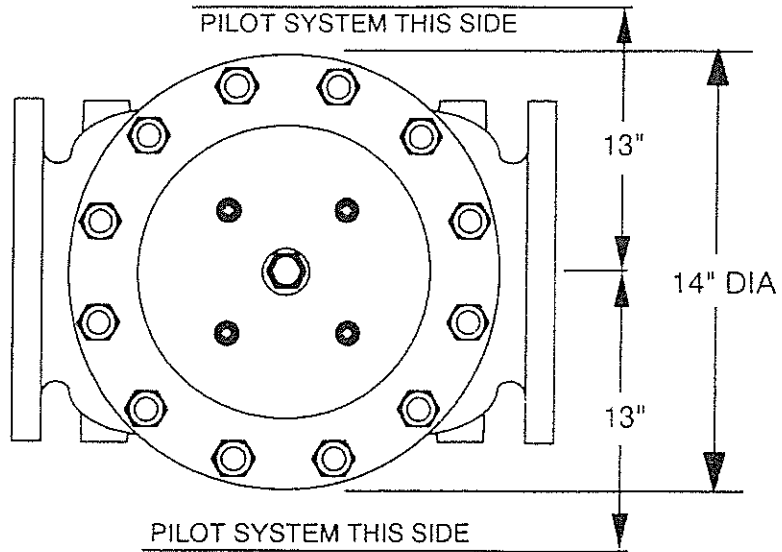
▲ = RECOMMENDED SPARE PARTS
(INCLUDED IN REPAIR KIT)


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

ALL DUCTILE IRON PARTS ARE EPOXY COATED

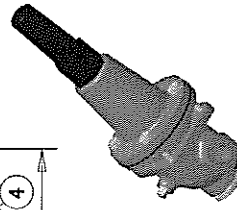
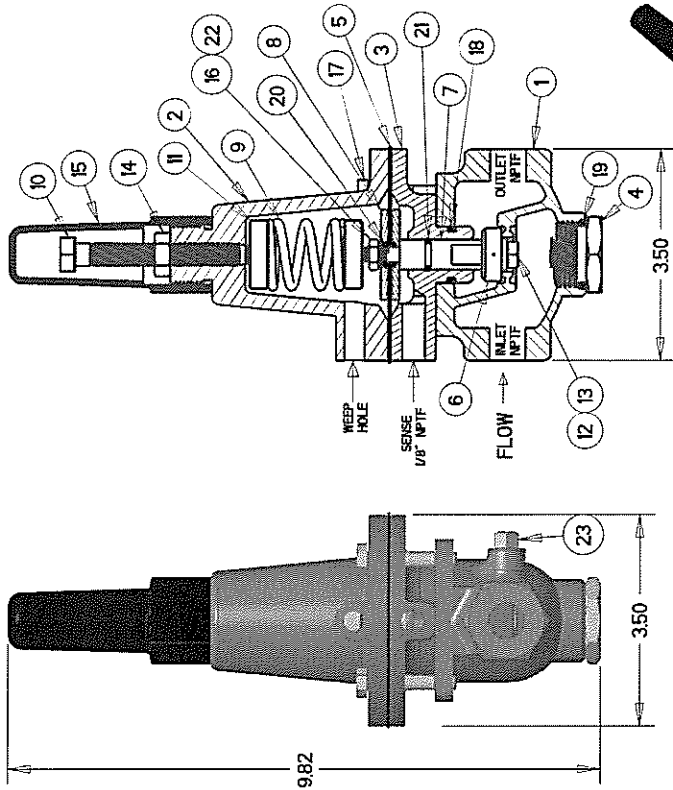


 Control Valves TULSA, OKLAHOMA U.S.A.		BASIC VALVE TYPICAL CONSTRUCTION	
		SIZE _____ DRAWING NUMBER _____ REV. _____	A BV
MATERIAL DIBT (DUCTILE IRON BRONZE TRIM) EPDM RUBBER		TOLERANCES N/A	
NO. REQ'D _____ SCALE NONE		DRAWN BY RON	DATE 2-12-14
REVISIONS		CHKD. BY	DATE
REF DWG NO'S			



				MATERIAL	TOLERANCES	 OCV Control Valves TULSA, OKLAHOMA U.S.A.		
					FACE TO FACE FRACTIONAL $\pm 3/32"$			
					OTHERS GENERAL ENVELOPE	SIZE	DRAWING NUMBER	REV.
CHG	E.C. NO.	DATE	BY	NO. REQ'D	DRAWN BY RON	DATE 8-5-96	A	6" 65D
REVISIONS				SCALE NONE	CHKD. BY	DATE		

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
16	590714	1	HEX NUT	316 STN STEEL
	590014			MONEL
17	531701	4	HEX NUT	18-8 STN STEEL
	531711		CAPSCREW	316 STN STEEL
18	611116	1	O-RING	VITON
	611116			EPDM
19	610912	1	O-RING	BUNA-N
	610912			VITON
	614912			EPDM
20	611010	2	O-RING	VITON
	614010			EPDM
21	614012	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 RETAINERS AS SHOWN IN MAIN TABLE

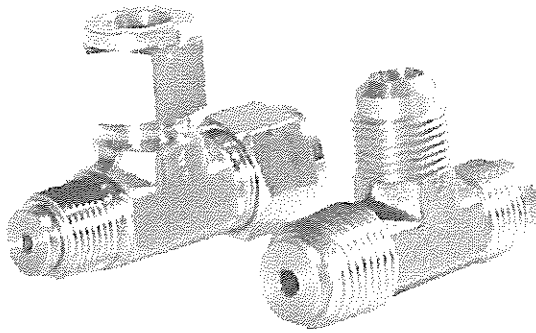
△ - RECOMMENDED SPARE PARTS (INCLUDED IN RUBBER REPAIR KITS)
 BUNA KIT: 930000
 VITON-F KIT 930100F
 EPDM KIT: 930400

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
	302702DSS		1/2" NPTF	DUPLEX STN STEEL
1	302704DSS	1	BODY	316L STN STEEL
	302702L			316L STN STEEL
	3027104L			ALLOY 20 STN STEEL
	302732AL20			NICKEL ALUM BRZ
	304102S		1/2" NPTF	LOW LEAD BRONZE
	304102S		1/2" NPTF	CF8M STN STEEL
2	304702DSS	1	BONNET	DUPLEX STN STEEL
	304702L			316L STN STEEL
	304702AL20			ALLOY 20 STN STEEL
	304107			NICKEL ALUM BRZ
	300795S			LOW LEAD BRONZE
	300719			303 STN STEEL
3	320730	1	ADAPTOR	316 STN STEEL
	300719L			DUPLEX STN STEEL
	300192			316L STN STEEL
	310730			NICKEL ALUM BRZ
4	692005	1	PLUG	316 STN STEEL
	694002			MONEL
	694016			BUNA-N/VITON
5	694023	1	DIAPHRAGM	VITON-F/NYLON
	694302			EPDM/NYLON
	310744			TEFLON
	310717			FLUOROSILICONE/NYLON
	310709			316 STN STEEL
	310742			303 STAINLESS
	310739			MONEL
6	310707	1	SEAT DISC	303 STAINLESS
	310077			316 STN STEEL
	310803			MONEL
	310804			303 STN STEEL
	314702			MONEL
	314752			303 STN STEEL
7	314702L	1	STEM	316 STN STEEL
	314002			MONEL
	308702			303 STN STEEL
8	308713	2	DIAPHRAGM PLATE	316 STN STEEL
	308000			MONEL
9	SEE CHART	1	SPRING	302 STN STEEL (STD)
	300700			ELGILLOY/MP35N (SPCL)
	300600			303 STN STEEL
	300600			316 STN STEEL
	300729			MONEL
	320735			303 STN STEEL
10	300096	SEE NOTE	ADJUSTING SCREW	316 STN STEEL
	300096			MONEL (STD)
	320096			MONEL (SPCL)

OCV Control Valves				
TULSA OKLAHOMA USA				
MODEL 1330 PILOT 3/8" - 1/2 NPT				
PRESSURE RELIEF PILOT				
SIZE	DRAWING NUMBER			
B	1330			
UNLESS NOTED	TOLERANCES			
XX ±.05				
XXX ±.005				
ANGULAR ±0.5°				
MACH FINISH .25				
DRAWN BY DATE	CHKD BY DATE			
JRK 3-8-2016				
SCALE	REF DWG NO'S			
0.500				
CHG	ECN	DATE	BY	REVISIONS

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.

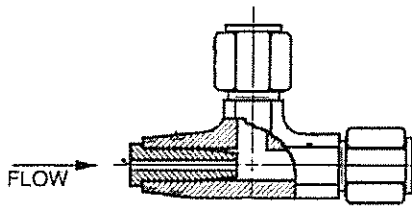
MODEL 126 EJECTOR DIAGRAM

Brass Construction / Stainless Steel Construction

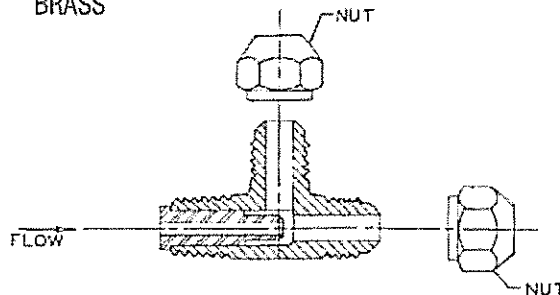
MATERIAL	PART NUMBER	P (NPT)	T-TUBE O.D.	STD. ORIFICE	USED ON VALVE SIZES
Brass ✓	213100	3/8"	3/8"	.125"	1 1/2"-6"
Brass	214100	1/2"	1/2"	.188"	8"-10"
Brass	215100	3/4"	3/4"	.188"	12"-16"
316 Stn. Steel	213700	1/4"	3/8"	.090"	1 1/2"-6"
316 Stn. Steel	214700	3/8"	1/2"	.125"	8"-10"
316 Stn. Steel	215700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

Orifice bushings are stainless steel.

STAINLESS

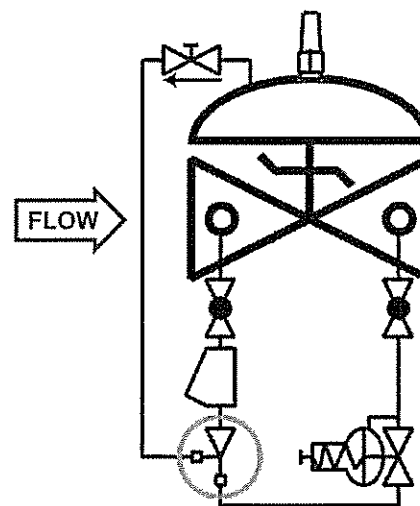


BRASS

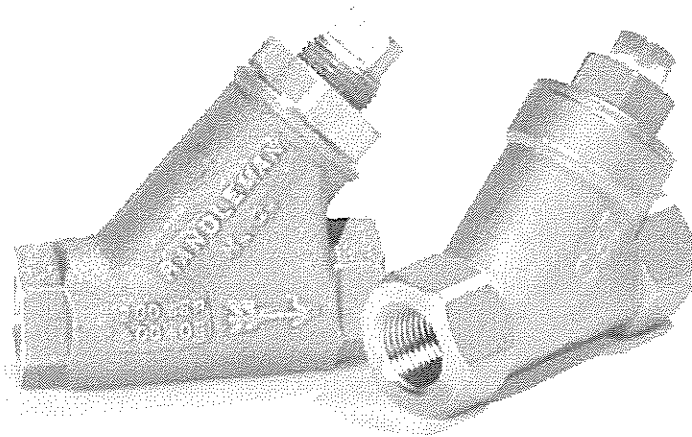


SCHEMATIC SYMBOL

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



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

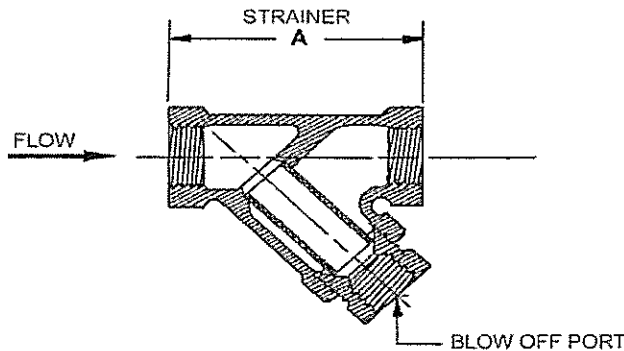


DESCRIPTION

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 1/4"-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 1/4"-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"

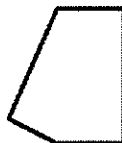
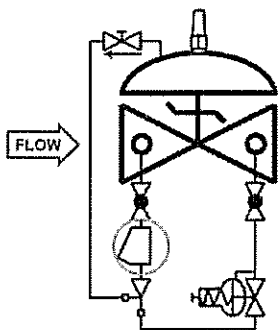


MATERIALS

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

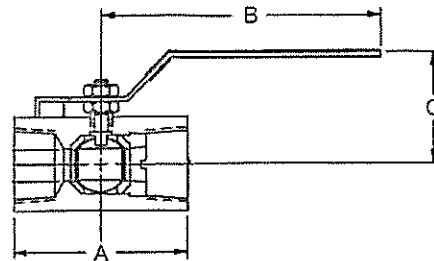
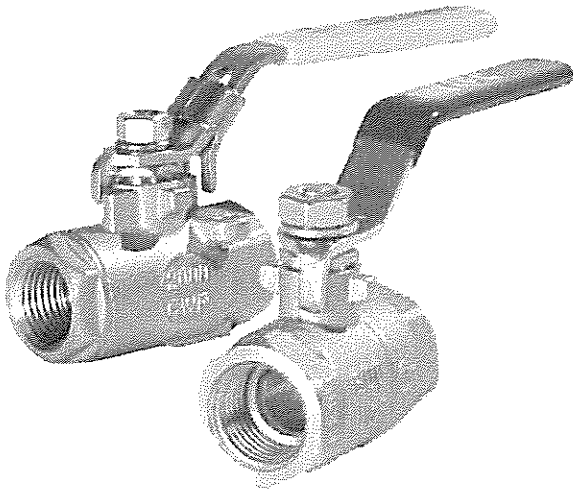
MAINTENANCE

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.

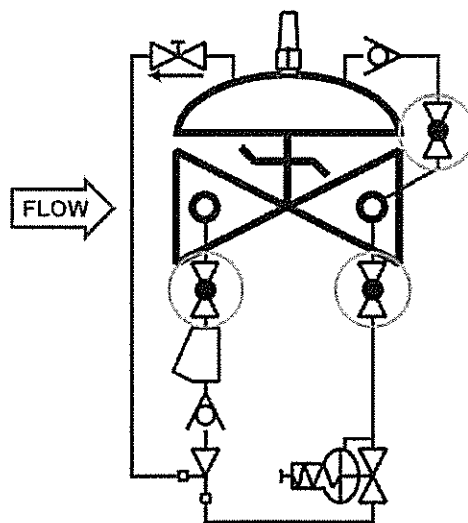
Ball valves are standard on water service valves; optional on fuel service valves.



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"

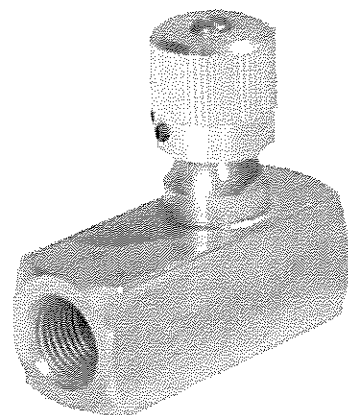
SCHEMATIC SYMBOL



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

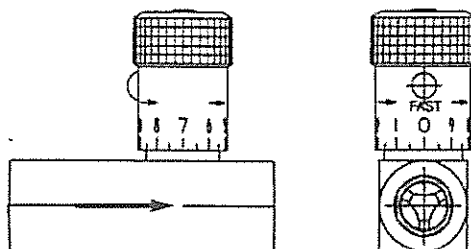


EXAMPLE: Shown here on a MODEL 127-4 Pressure Reducing / Check Valve.



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.

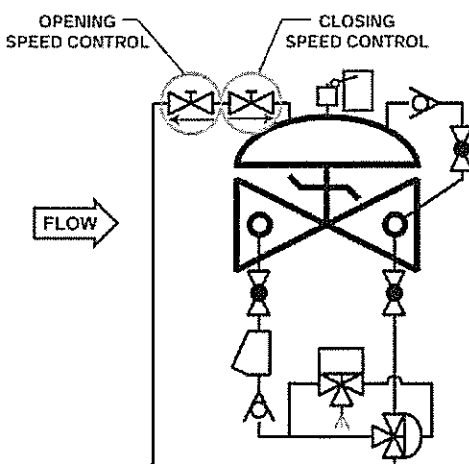


MODEL 141-3 MATRIX

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.

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.