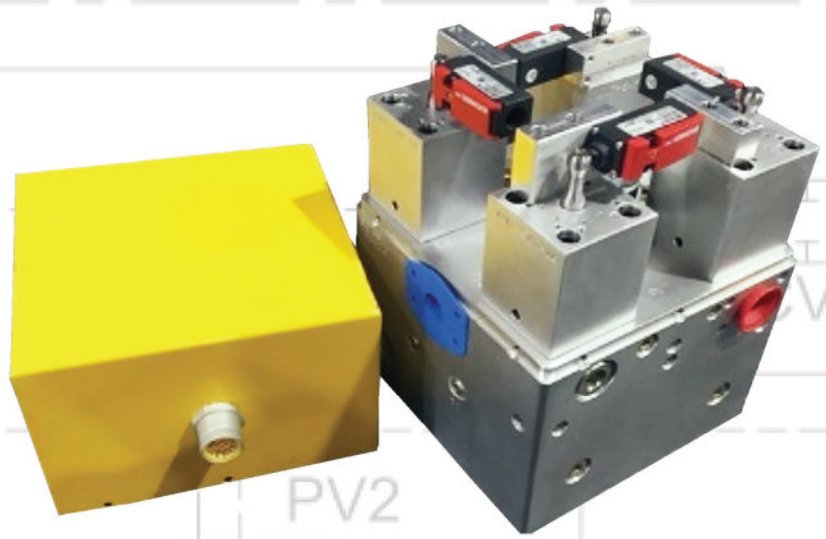
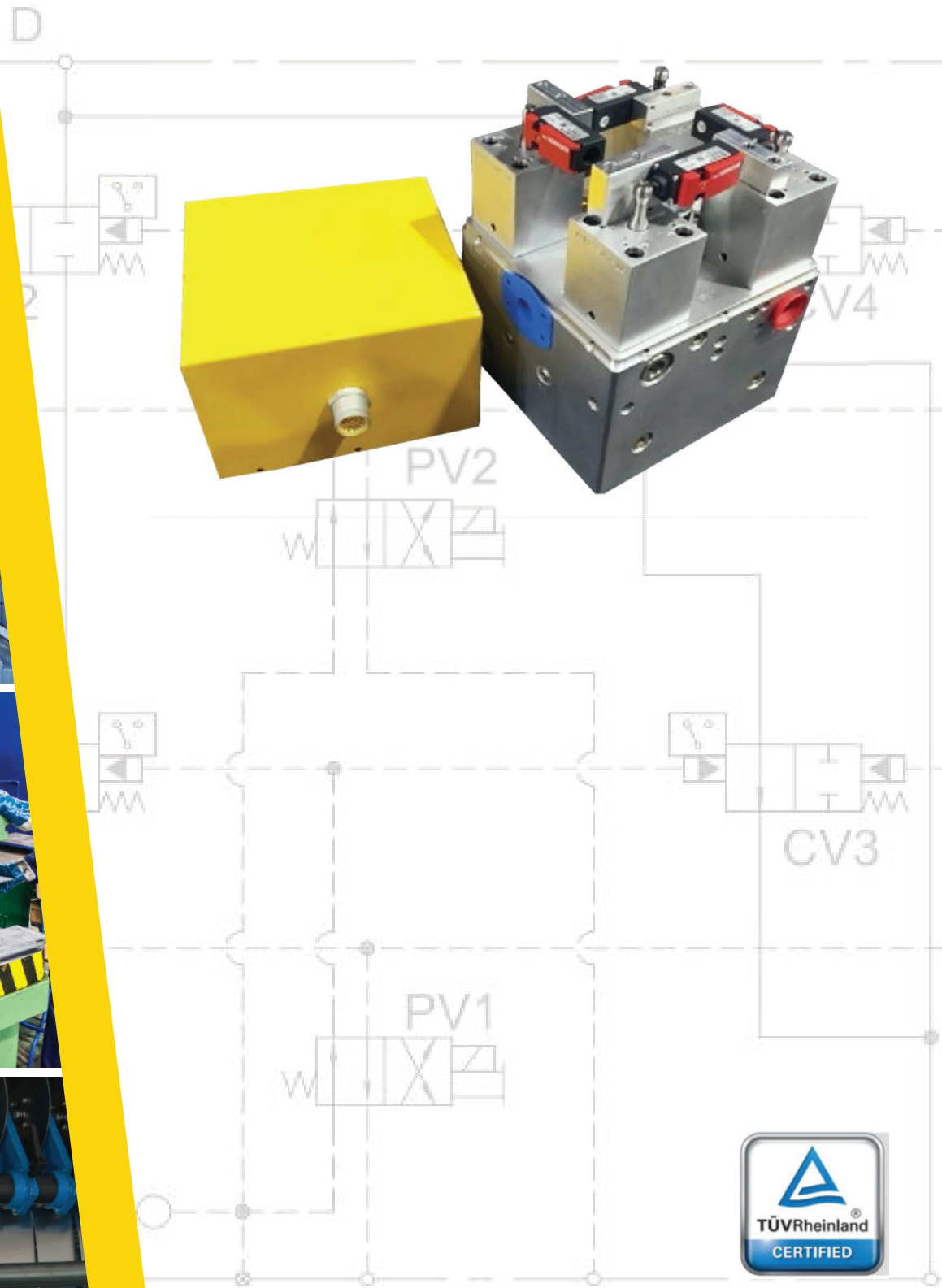




# CONTROL RELIABLE

HYDRAULIC SAFETY VALVES



**SAFETY & PRODUCTIVITY IN A BOX**





## WHAT ARE CONTROL RELIABLE HYDRAULIC SAFETY VALVES?

Since 2006, Control Reliable Hydraulic Safety Valves have incorporated the latest technologies and leveraged the latest safety standards to help machines run safer and with increased productivity.

Control Reliable Valves offer redundant, control reliable solenoid valves that permit the use of "Alternative Methods" according to the lockout/tagout standard ANSI/ASSE Z244.1 - 2016. Single channel monitored safety valves and manual lockout/tagout valves with sequencing plates are also available which ensure the correct steps to shutdown/startup a hydraulic machine.

These are SRP/CS (safety related parts of a control system) that will allow access to an otherwise hazardous hydraulic machine area if incorporated properly into the safety control logic.

The Cat 3 PLd configurations are redundant so that if there is a failure of one channel, the second channel will reliably perform the safety function.

## HOW DO THEY WORK?

Control Reliable Valves are suitable for ISO-13849 (Safety Categories 2, 3 PLd) in both 2-way and 3-way configurations. Our redundant solenoid valves reliably shift only when it is safe to do so and are designed to "fail-to-safe" if single or multiple faults are detected by a safety relay or safety controller supplied by others.

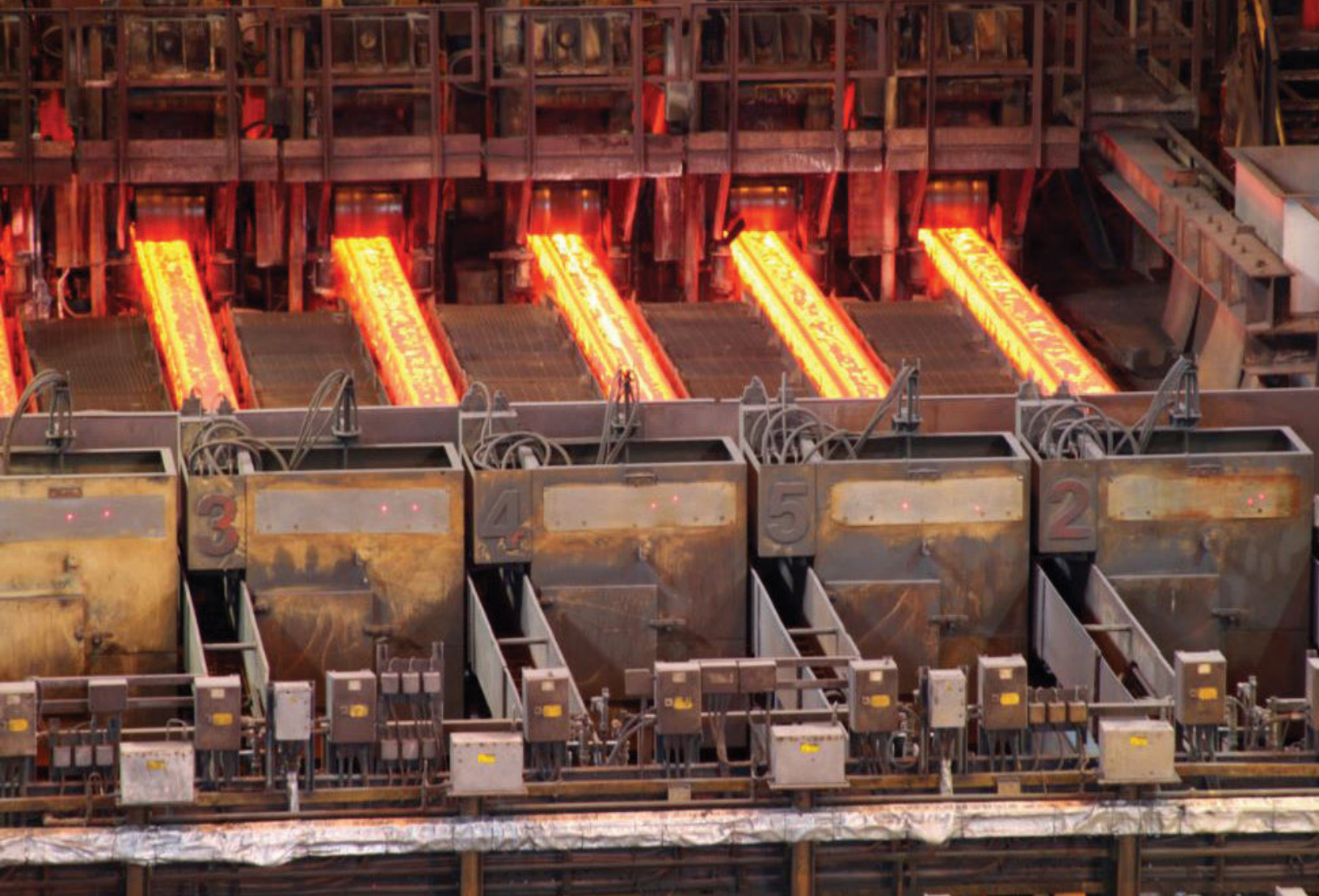
During normal operation, the assembly operates like a single valve. If the redundant spools ever get out of sync, the redundant switches detect the condition and the safety PLC or safety relay, not provided, interprets the out of sync condition as a fault and production is stopped.

The safe condition for EI, a 2-way Energy Isolation valve, is to block the power source and vent the machine to tank. The EI has series flow from the inlet through redundant valve elements to the discharge of the valve. The EI also features parallel flow through both valve elements to tank.

The safe condition for the BL, a 2-way Blocking valve, is to block flow and is commonly used to prevent cylinder movement caused by gravity. The BL series has flow from the inlet through the redundant valve elements to the discharge of the valve.







## WHY CONTROL RELIABLE HYDRAULIC SAFETY VALVES?

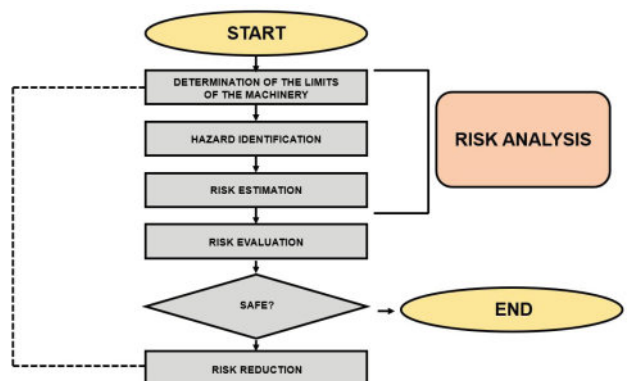
- Keep Employees Safe
- Protect Expensive Tooling
- Reduce Downtime During Safety Events By Incorporating Single Point Lockout
- Reduce Risk
- Pass OSHA Inspections
- Comply With EN ISO 13849-1 PL Safety Standards
- Reliably Isolate (or Block) Hydraulic Energy
- Used During Routine, Repetitive Processes Where Personnel Need To Enter An Otherwise Hazardous Area

**SAFETY FIRST**  
YOUR HANDS  
DEPEND ON IT!

## HOW TO SELECT THE RIGHT SAFETY VALVE:

Step 1: Complete a risk assessment on the machine to identify, assess, reduce, and document the machine hazards using EN ISO 13849-1 as a guideline.

Step 2: Based upon the level of risk found in the risk assessment, select the corresponding rating of safety valve or contact your Control Reliable Hydraulic Safety Valve representative for assistance.



# CONTROL RELIABLE REDUNDANT VALVES

Suitable for Cat 2, 3 PLd Applications

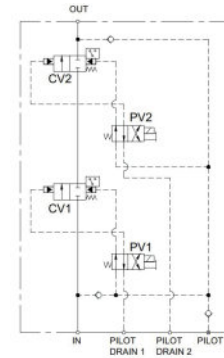
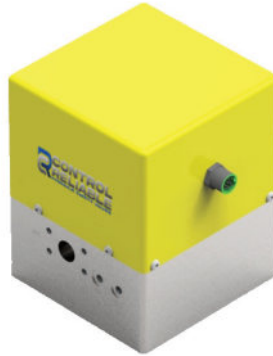
## MODEL: CRBL - A2

### DESCRIPTION:

Control-reliable, redundant, 2 position 2-way poppet valves with force-guided safety switches. The de-energized and fail-to-safe path blocks hydraulic source and maintains pressure downstream, commonly used in counter balance applications.

### GPM @ 200 PSI:

75, 135, 220, 330



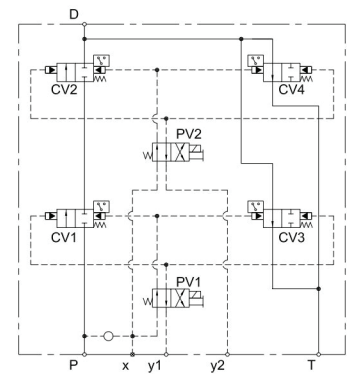
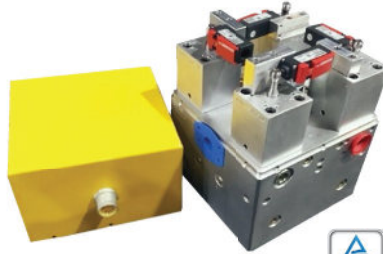
## MODEL: CREI - A2

### DESCRIPTION:

Control-reliable, redundant, 2 position, 2-way poppet valves with force-guided safety switches. The de-energized and fail-to-safe path blocks hydraulic source and drains outlet to tank.

### GPM @ 200 PSI:

75, 135, 220, 330



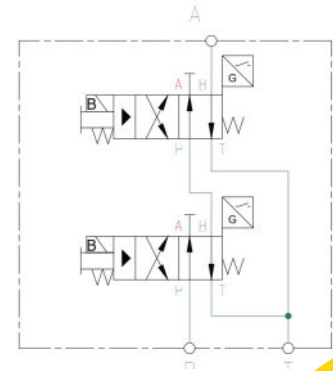
## MODELS: CREI-B2

### DESCRIPTION:

Control-reliable, redundant, 2 position, 4-way spool valves with inductive spool position-monitoring (N/C + N/O) switches. The de-energized and fail-to-safe path blocks hydraulic source and drains outlet to tank.

### GPM @ 200 PSI:

15, 30, 60



## SIZES / OPTIONS:

CONTROL RELIABLE HYDRAULIC VALVE	TYPE	MONITORING	VALVE SIZE / CONNECTION SIZE	CONNECTION TYPE	VOLTAGE	MANIFOLD TYPE	DESIGN SERIES
<b>CR</b>	<b>EI</b>	<b>RM</b>	<b>0720</b>	<b>FL</b>	<b>024</b>	<b>A</b>	<b>A2</b>
EI - ENERGY ISOLATION VALVE BL - BLOCKING VALVE		RM - PROVISION FOR REMOTE MONITORING	*0308 (15 GPM) *0512 (30 GPM) 0720 (60 GPM) 1620 (75 GPM) ***2532 (135 GPM) ***3240 (220 GPM) ***4048 (330 GPM)	TS - THREADED SAE **FL - CODE 61 FLANGE *** FH - CODE 62 FLANGE	024 - 024VDC 115 - 115VAC	A - ALUMINUM (3,000 psi Max) D - DUCTILE IRON (5,000 psi Max)	A21 B2

\* TS CONNECTION ONLY  
\*\* ALUMINUM ONLY  
\*\*\* DUCTILE IRON ONLY  
† TUV CERTIFIED



# INDUCTIVE POSITION MONITORING

Suitable for Cat 2 Applications

## MODELS: IPM

### DESCRIPTION:

Spool valves with inductive position monitoring (IPM) control valve, 24 VDC

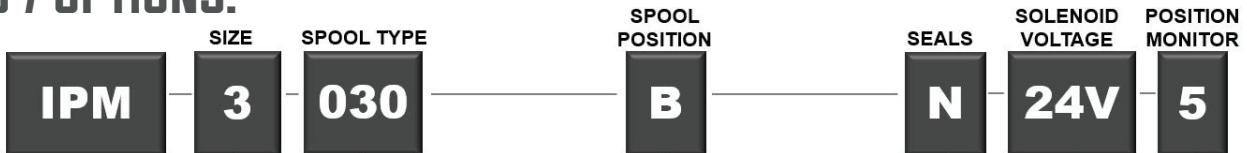
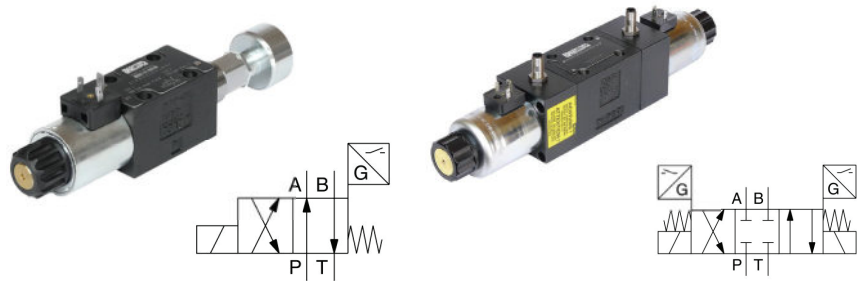
### GPM @ 200 PSI:

15, 30, 60

### MAXIMUM PRESSURE:

P (A & B): 350 Bar / Tank: 210 Bar

## SIZES / OPTIONS:



3 (15 GPM)  
5 (30 GPM)  
7 (60 GPM)

CODE  
N  
V

SEALS  
NBR  
FPM

VOLTAGE  
12V=  
24V=  
98V=  
205V=

3 POSITION SPOOLS	
CODE	SPOOL TYPE
001	
002	
004	
2 POSITION SPOOLS	
CODE	SPOOL TYPE
020	
030	

\*Not available with  
C, D spool positions

3 POSITION SPOOLS		
CODE	SPOOL POSITION	
E		Operated in position "a" 2 positions. Spring offset in position "0"
F		Spring offset in position "b" 2 positions. Operated in position "0"
K		Operated in position "b" 2 positions. Spring offset in position "0"
M		Spring offset in position "a" 2 positions. Operated in position "0"
C		Spring offset in position "0" 3 positions. Operated in position "a" or "b"
2 POSITION SPOOLS		
CODE	SPOOL POSITION	
B		Spring offset in position "b" 2 positions Operated in position "a"
H		Spring offset in position "a" 2 positions Operated in position "b"
D		Operated in position "a" or "b". 2 positions No center or offset position

CODE	POSITION CONTROL	SPOOL POSITION
2	End position monitored side B	E, F, B (Solenoid on a-side)
5	Start position monitored side B	
1	End position monitored side A	K, M, H (Solenoid on b-side)
4	Start position monitored side A	
3	End positions	c, d
6	Start positions	d

# LOCKOUT / TAGOUT VALVES

## MODELS: LBVV08

### DESCRIPTION:

3-Way hydraulic blocking, venting, locking manual LOTO valve with sequencing plates. Locks in CLOSED position only.

### SAFETY RATING:

For Lockout Tag Out

### MAX PRESSURE:

Code 61: 1/2", 3/4", 1" - 5,000psi  
Code 61: 1 1/4", 1 1/2", 2" - 3,000psi  
Code 62: All Sizes - 6,000psi

## SIZES / OPTIONS:



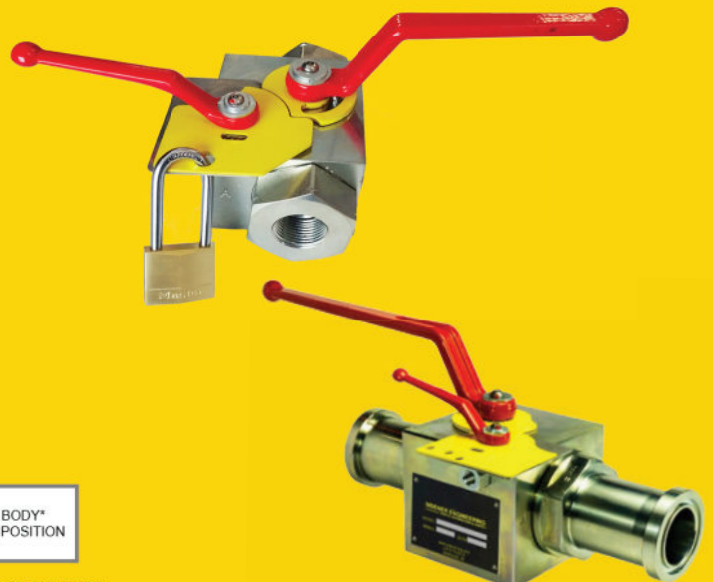
LOCKING BLOCKING  
VENTING VALVE

08 - 1/2"  
12 - 3/4"  
16 - 1"  
24 - 1 1/2"  
32 - 2"  
40 - 2 1/2"

TS - THREADED SAE  
F1 - 4-BOLT FLANGE - CODE 61  
F2 - 4-BOLT FLANGE - CODE 62  
SF1 - SPLIT FLANGE - CODE 61  
SF2 - SPLIT FLANGE - CODE 62

BLANK - NONE  
SS - STAINLESS STEEL BODY\*  
LO - LOCKING IN OPEN POSITION  
FP - FPM SEALS

\* MAX PRESSURE  
RATING TBD





**DOWNLOAD SUPPORTING  
SPEC SHEETS & CAD FILES:**



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## **TUV CERTIFIED:**

TUV Type Designation:  
Codes & Standards:  
Scope and Result:

CREI, CRBL  
ISO 13849-1:2015  
Safety Functions:  
CREI Valve: Block the flow from HPU and vent system to tank.

CRBL Valve: Block flow in hydraulic system

The assessment comes to the result that the valves meet the requirements related to category 1, PLc according to EN ISO 13849-1. With an appropriate process control system (PCS) providing at least a low diagnostic coverage (>60%) the requirements for Category 3 and PLd are fulfilled. The relevant notes in the operating instructions and safety brochure must be observed.

Valid Unit:  
Scan for Certificate:

2023-11-16



SIL/PL  
Capability

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ID 0600000000