McGuire Air Compressors 336-229-9999 compressors@mcguire.biz

OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVE

What it does & WHY you need it:
PREVENTS DANGEROUS HOSE WHIPS & REQUIRED BY OSHA

1. **Protect your most important assets: Your employees and their equipment!**

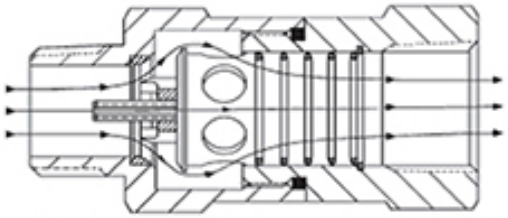
   OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES offer simple but efficient protection to pneumatic (compressed air) systems in the event of a broken compressed air hose. It is a very dangerous situation when an air hose breaks and causes the hose to whip around.

2. ***OSHA safety STANDARD regulation 29CFR CHXVII PARAGRAPH 1926.302(b)(7) STATES:***
   "All hoses exceeding 1/2-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure."

HOW THE COMPRESSED AIR SAFETY SHUT-OFF VALVE WORKS:

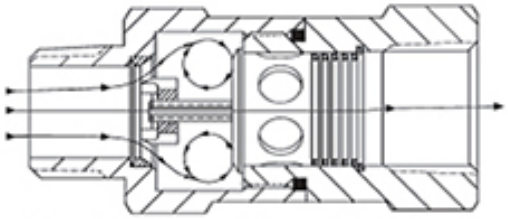
OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES immediately shut off the air supply should the volume of air flowing through the valve exceed a preset value. (For example: when an air hose breaks) This "value" is factory preset and is set to allow normal air consumption when using air tools. Should the air consumption exceeds the set value, or the air-line is severed, then the internal piston instantly shuts off the main flow.

The valve will automatically reset after repairs are made because of an integral bleed hole that allows some air to flow though. This enables the line pressure to automatically reset the **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** once the main break is repaired.



Check Valve In Open Position

NOTE: The valve will trip if the air flow exceeds the factory set range.



Check Valve In Closed Position

NOTE: The bleed hole is open all the time.

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HOW TO CHOOSE THE CORRECT OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES YOU NEED FOR YOUR APPLICATIONS:

Using the following steps and chart, you can determine which valves you need.
You need ONE VALVE for each HOSE going to one tool.
If you have 5 hoses to 5 tools, you will need 5 safety valves.

1. What is the **INSIDE DIAMETER** of the hose you are using? _____Hose ID

2. Now **check the chart** for that inside diameter. You'll see there are several valves to choose from. Use the next steps to determine which valve part number you actually need.

3. What is the **scfm (cfm) requirement of the tool**? Now multiply the tool scfm by 120% to get a corrected scfm value for the formula.
_____Tool scfm X 1.20 = _____ **(corrected tool scfm)**
(Find the scfm of your tool by checking the manual that came with the tool, or call the tool's manufacturer)

4. What is the **INLET PRESSURE (PSI)** going into your hose from the compressor? _____PSI

5. **If your PSI is 90** – you can go directly to the chart and using the ID SIZE and corrected scfm (figured in step 3) you'll find the Part # you need for the SCFM flow range at 90 PSI.

6. **If your PSI is lower than 90 or higher than 90** – you will need to use the flow rate multiplier in the chart below. You will multiply your tool's corrected scfm (figured in step 3) times the flow rate multiplier for your PSI. This provides the cut-off flow range number needed to find the correct valve part # on the chart that you should order for that one hose & tool.

_____corrected tool scfm x _____Flow rate multiplier = _____Valve Cut-off Flow Range # you should use to find the valve part number you need.

NPT & Hose ID Size	Part #	Cut-off Flow Range (SCFM at 90 PSI)
1/4"	***SCVL2***	23-29
3/8"	***SCVM3***	39-47
	SCVS3	52-65
1/2"	***SCVM4***	70-78
	SCVS4	80-96
3/4"	***SCVL6***	72-88
	SCVM6	92-108
	SCVR6	112-128
	SCVJ6	132-148
	SCVS6	160-180
	SCVH6	180-200
1"	***SCVL8***	165-195
	SCVM8	220-260
	SCVS8	280-320
	SCVH8	310-340
1-1/4"	***SCVL10***	260-290
	SCVM10	300-340
	SCVS10	440-500
	SCVH10	570-630
1-1/2"	***SCVL12***	300-360
	SCVM12	470-530
	SCVS12	640-720
	SCVH12	750-830
2"	***SCVL16***	510-590
	SCVM16	725-825
	SCVS16	900-1050
	SCVH16	1100-1200
3"	***SCVL24***	1200-1400
	SCVS24	2400-2700
	SCVH24	2850-3050

Safety Shut-off Valve Cut-off Rates at PSI's Other Than 90 PSI					
Inlet pressure (PSI)	25	50	75	100	125
Flow rate multiplier	.62	.79	.93	1.05	1.16

Not recommended for applications requiring 100% of the available air supply. These applications include, but are not limited to, sand blast equipment, pile driving rigs, and expansion joint blow down pipes. It is recommended to install auxilliary safety devices, including Safety Cables, to ensure optimum safety for the operator in the event of a coupling failure or hose rupture.

ORDER YOUR OSHA SAFETY VALVES TODAY

INSTALLATION

An **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** should be placed immediately after the air control shut off valve and before the hose on a compressor, and after each discharge port that a hose is connected to.

OPERATION:

Before starting the compressor the air control valve should be closed completely. When the compressor unloads, open the air shut off control valve *very* ***slowly*****.** Full port ball valves tend to work better than gate or butterfly type valves.

The air shut off control valve must be fully open for the **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** to work. Some portable air compressor manufacturers recommend start-up with the air control valve slightly open. In this case you may have to close the valve and reopen it slowly to the full open position, or wait for the safety shut-off valve to reset itself.

If the **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** fails to operate despite meeting all conditions, check the hose line for obstructions or a hose mender restricting normal air flow.

VERIFYING OPERATIONS:

- Install **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** following the instructions supplied.
- Connect tool or equipment to air-line hose to complete circuit to the air line
- Open control valve fully to pressurize air hose.
- Switch on equipment or tools to ensure they are working properly.
- If tool or equipment starts and runs satisfactorily, stop operation and depressurize hose.
- Disconnect hose from tool or circuit and **SECURE HOSE END.**
- Turn on air supply slowly (to avoid tripping OSHA safety valve). Prior to fully reaching operation conditions, the **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** should suddenly activate and stop air flow.
- A slight air flow will remain as part of the automatic re-set function.
- If the **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVE** is not activated the unit should be disconnected and the **lower flow range OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** should be used. This means you need to use a different valve with a lower scfm range.

OPERATING PRESSURE:

- Maximum 250 PSIG
- Minimum burst pressure 1200 to 2000 PSIG
- Drop pressure at shut-off flow. 2 TO 5 PSIG

OPERATING TEMPERATURE:

- –40°F* to +250°F
- At temperatures below 40°F ensure that **OSHA COMPRESSED AIR SAFETY SHUT-OFF VALVES** are not subject to icy conditions which may prevent proper functioning.

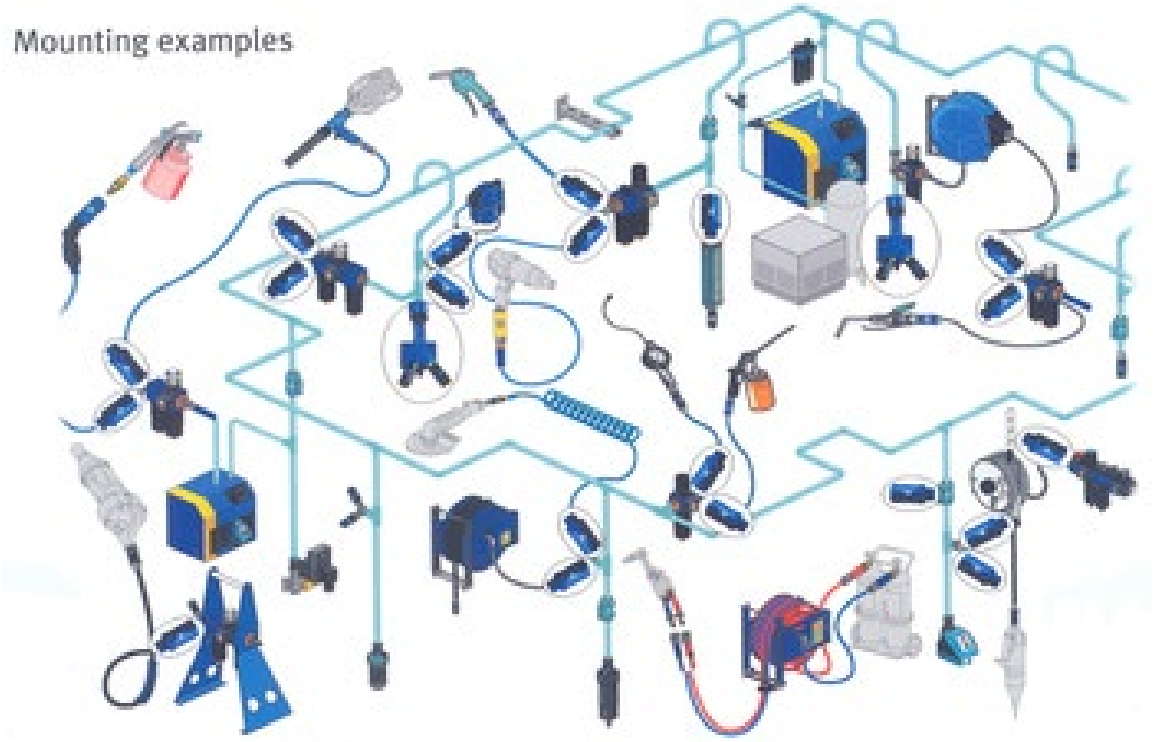
MATERIALS:

Brass body, brass internal parts, stainless steel spring and bleed valve and nitrile seals

PRODUCT FEATURES:

- Protects personnel, machinery and plant
- Maintenance friendly - repair possible while plant is still working
- Low pressure drop
- Economic: competitive pricing, no un-necessary repairs, high corrosion resistance
- Complies with EN ISO 4414/ISO 4414 § 5.4.5.11.1 Machine Directive 2006/42/EG
- Complies with OSHA USA: 1926 Safety & Health Regulations for Construction Power-operated hand tools - 1926.302/b.7 OSHA regulations (Standards - 29 CFR)
- MSHA (Mine Safety and Health Administration) Regulations: 30 CFR Sections §56.13021 High-pressure hose connection states: 30 CFR Sections §57.1730. Compressed air; general; compressed air systems
- Reliable and tamperproof, no adjustment necessary
- Compact size
- Compatible with all pneumatic systems
- Automatically resets after failure correction

APPLICATIONS:

- Suitable for every application where compressed air is used
- Compressed air hoses and systems in chemical and pharmaceutical industries
- Cleanrooms to laboratory to production assembly lines
- Off- and On-Shore

Mounting examples