

Pressure Relief Valves

Condensed Catalog



Consolidated

DRESSER
Flow Solutions

MC-3

Products and Services for the Energy Industry

The operations and major product lines of Dresser Flow Solutions make it an international leader in design, manufacturing and support of valves, pumps, actuators and instrumentation for all phases of the energy industry.



BECKER PRECISION EQUIPMENT is an established leader in the natural gas industry providing control valves, actuators and control instrumentation. Key technologies and solutions are focused on improving the operation of natural gas regulation facilities.

Consolidated®

CONSOLIDATED OPERATIONS produces a complete line of safety and safety relief valves, including spring-loaded and pilot operated designs. Brand names include the Maxiflow® high pressure safety valve and the Consolidated MPV™ modular pilot-operated safety relief valve.



LEDEEN OPERATIONS manufactures pneumatic, hydraulic, electro-hydraulic, electric and gas-over-oil type actuators. Designs are available for quarter turn and linear applications, covering a wide range of torque and thrust ranges respectively.



TK VALVE OPERATIONS produces trunnion-mounted ball valves, floating ball valves, subsea, metal seated and special alloy ball valves. Valves are designed to meet API fire safety standards and conform to NACE requirements. All valve designs are engineered to be easily automated.



GROVE OPERATIONS is a leading manufacturer of trunnion ball valves, gate valves, plug valves, butterfly valves and regulators. Major product lines include Grove® ball valves, pipe line gate valves, Omega® rising stem ball valves, MB balanced plug valves and "F" Series butterfly valves.

Masoneilan®

MASONEILAN OPERATIONS is a leading producer of reciprocating, rotary and severe service control valves, regulators, field instrumentation and levels. Major product brands include the Camflex® and Varimax® eccentric plug rotary valves, and the SVI® digital valve positioner and process controller.



TEXSTEAM OPERATIONS manufactures chemical injection pumps, block valves, specialty ball valves and electric actuators. Valve products include the Super G metal to metal plug valve, Cooper high alloy ball, gate, globe and check valves, as well as Andco and RCS electric actuators.



TOM WHEATLEY OPERATIONS manufactures pipeline and specialty check valves. Products include small and large swing check valves, subsea swing checks, turbine extraction checks and piston check valves.

WHEATLEY®

WHEATLEY OPERATIONS are leading suppliers of swing check valves. Included are wafer check valves and EOR gate valves.

Consolidated®

CONSOLIDATED safety valves and relief valves are the recognized standard for automated overpressure protection in steam generation applications. These products have been successfully used on small auxiliary steam generating units to fossil and nuclear power plant generators around the world.











Consolidated®

CONSOLIDATED safety relief valves are available in various design configurations to provide customers with the right solution at the best price. Dresser provides spring-loaded and pilot-operated safety relief valves in various sizes and material options to meet the most demanding pressure relief applications.













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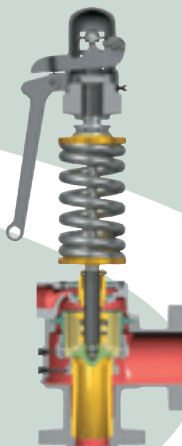
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1700

SV



1700TM Maxiflow[®]

The **CONSOLIDATED** Maxiflow[®] high pressure safety valve is a premium product and is the industry leader for high pressure, that are installed on power generating stations worldwide.

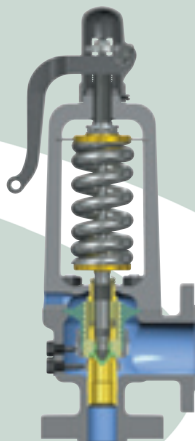
INLET SIZES:	1-1/2" through 6" in either flanged or weld neck design
INLET RATINGS:	ANSI Class 600 through 4750
OUTLET SIZES:	3" through 10" flanged
OUTLET RATINGS:	ANSI Class 150 and Class 300
ORIFICE SIZES:	Eleven sizes - 1 through RR
TEMP. RANGE:	To 1200°F
MATERIALS:	Alloy and carbon steel cast body with stainless steel trim is standard. Special alloys are available for specific applications.
CERTIFICATION:	ASME Section I and VIII

Consolidated®



2700

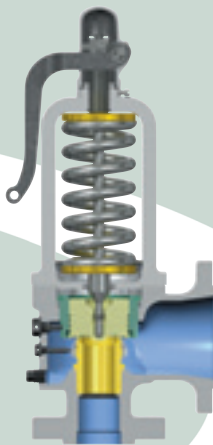
SV



2700™

CONSOLIDATED type 2700 safety valve is designed to meet the fast growing co-generation and waste-to-energy markets.

INLET SIZES:	1-1/2" through 6" in either flanged or weld neck design
INLET RATINGS:	ANSI Class 600, Class 900 and Class 1500
OUTLET SIZES:	3" through 8" flanged
OUTLET RATINGS:	ANSI Class 150 and 300
ORIFICE SIZES:	Seven sizes - 1 through Q
TEMP. RANGE:	To 1050°F
MATERIALS:	Alloy and carbon steel cast body with stainless steel trim is standard. Special alloys are available for specific applications.
CERTIFICATION:	ASME Section I and VIII

1811
SV

1811™

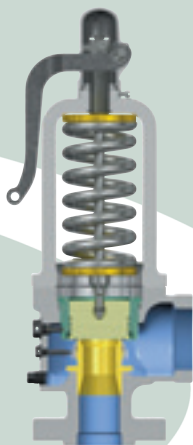
CONSOLIDATED type 1811 safety valve is a cost effective, high capacity, flanged steel safety valve designed for steam service.

INLET SIZES:	1-1/4" through 6" flanged
INLET RATINGS:	ANSI Class 300 and Class 600
OUTLET SIZES:	1-1/2" through 8" flanged
OUTLET RATINGS:	ANSI Class 150
ORIFICE SIZES:	Ten sizes - F through Q
TEMP. RANGE:	To 1000°F
MATERIALS:	Alloy and carbon steel cast body with stainless steel trim is standard.
CERTIFICATION:	ASME Section I and VIII



1511

SV



1511™

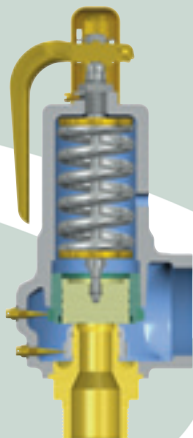
CONSOLIDATED type 1511 safety valves are designed for low pressure, steam heating boilers and steam generators as well as air service applications.

INLET SIZES:	1-1/2" through 6" in either flanged or threaded design
INLET RATINGS:	ANSI Class 250
OUTLET SIZES:	2-1/2" through 4" threaded, 6" and 8" in either flanged or threaded design
OUTLET RATING:	ANSI Class 125
ORIFICE SIZES:	Eight sizes - H through Q
TEMP. RANGE:	-20°F to 420°F
MATERIALS:	Cast iron body with brass trim is standard. Stainless steel trim is optional.
CERTIFICATION:	ASME Section I and VIII



1541 / 1543

SV



1541 / 1543™

CONSOLIDATED type 1541 and 1543 safety valves are designed for steam and other non-toxic, compressible fluids. They are most commonly used in pharmaceutical, dyeing and process plants.

INLET SIZES: 1/2" through 2-1/2" threaded

OUTLET SIZES: 3/4" through 2-1/2" threaded

ORIFICE SIZES: Six sizes - D through J

SET PRESSURE RANGE: 5 psig to 350 psig

TEMP. RANGE: -20°F to 420°F

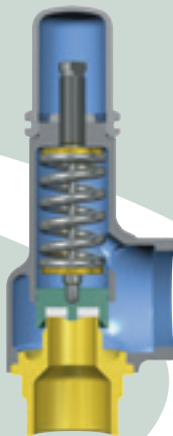
MATERIALS: Cast iron bonnet with brass base and trim is standard. Available with bronze bonnet. Stainless steel base and disc are also optional.

CERTIFICATION: ASME Section I and VIII



2478

SV



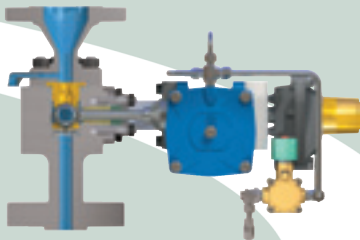
2478™

The **CONSOLIDATED** type 2478 pressure relief valve is a totally enclosed design for non-corrosive, thermal relief, liquid service.

INLET SIZES:	1/2" through 2-1/2" threaded
OUTLET SIZES:	3/4" through 2-1/2" threaded
ORIFICE SIZES:	Six sizes - D through J
SET PRESSURE RANGE:	5 psig to 300 psig
TEMP. RANGE:	-75°F to 406°F
MATERIALS:	Cast bronze bonnet, brass base and trim and PTFE soft seats are standard.
CERTIFICATION:	Non-Coded

3500

SV

**3500**TM**Electromatic Ball Valve**

The **CONSOLIDATED** series 3500 Electromatic Ball Valve is designed to provide automatic or manual overpressure protection for steam boiler systems, and can also be used to assist start-up and shut-down venting.

INLET SIZES:	1-1/2", 2" and 2-1/2" in either flanged or weld neck design
INLET RATING:	ANSI Class 1500 to Class 4500
OUTLET SIZES:	3" and 4" flanged
OUTLET RATING:	ANSI Class 300 and Class 900
TEMP. RANGE:	To 1100°F
MATERIALS:	Forged and cast alloy steel bodies with titanium carbide coated ball and seat is standard.
CERTIFICATION:	ASME Section I and Non-Coded

Nuclear

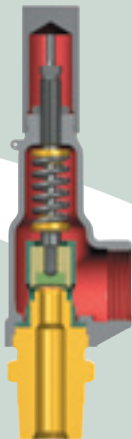
- NV** ASME Section III Systems
UV ASME Section VIII for ASME B31.1 Systems
NR Nuclear Repair

Dresser has been producing pressure relief valves since 1965 for overpressure protection related to boiling water reactors (BWR), pressurized water reactors (PWR) and high temperature gas-cooled reactors (HTGR). **CONSOLIDATED** pressure relief valves are constructed to meet the design, fabrication, testing, certification and stamping requirements of ASME Code Section III, Class 1, 2, 3, and ASME Code Section VIII, Division 1. Both safety related (10 CFR Part 21) and non-safety related products are provided.



- SV** Safety Valve
PORV Power Actuated Pilot Operated Relief Valve
POSRV Pilot Operated Safety Relief Valve
SV w/AAD Safety Valves with Auxiliary Actuating Device
SRV Safety Relief Valve

Valve Type	Pressure Relief Valve Configuration	ASME Code	Class	Service
3700	SV, SV w/AAD	III	1, 2	Main Steam Safety Valves
31700	SV	III	1	Pressurizer Safety Valves
1541-3, 1543-3	SV	III, VIII	2, 3	Air
Electromatic:				
31533VX, 1525VX	PORV	III	1	Steam
1900	SRV	III, VIII	1, 2, 3	Gas, Liquid, Steam
19000	SRV	III, VIII	1, 2, 3	Gas, Liquid, Steam
13900	POSRV	VIII	N/A	Turbine Reheater Relief Valves
3900 MPV	POSRV	III, VIII	2,3	Gas, Liquid, Steam


19000
SRV


19000™

The **CONSOLIDATED** 19000 is in accordance with ASME Sec. VIII and European PED requirements. The valve provides superior performance in seat tightness, capacity and blowdown on all media types. In most cases, there are no part changes required for use in different media.

INLET SIZES:	1/2" through 2" in either threaded, socket weld, flanged, Grayloc® or sanitary fitting design
OUTLET SIZES:	1" through 2-1/2" in either threaded, socket weld, flanged or sanitary fitting design
ORIFICE SIZES:	.096 in. ² through .567 in. ²
SET PRESSURE RANGE:	5 psig to 8000 psig
TEMP. RANGE:	-425°F to 1100°F
CERTIFICATION:	ASME Section III and VIII European P.E.D.

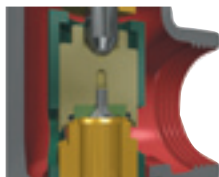
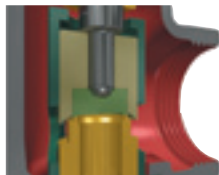
Consolidated®

19000- Standard Design

Metal-to-metal seat construction:
Seat tightness compliant with API 527.

19000- DA O-Ring Seat Option

Soft seat design provides bubble tight seats at up to **97%** of valve set pressure for valves set at 101 psig and above. This option allows for higher system operating pressures without the concern of seat leakage.



Options for **19000**™

Additional variations to the **CONSOLIDATED** type 19000 conventional safety relief valves include:

19000BP - Balance Piston

19000PF - Pharmaceutical Service

MATERIAL VARIATIONS: 316 Stainless Steel

Monel

Hastelloy

Alloy 20

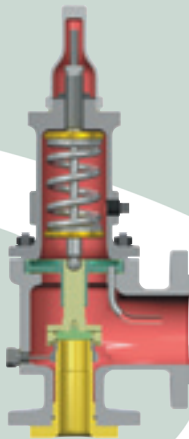
Exotics

19000-SG (NACE MR0103 compliant)



1900

SRV



1900™

CONSOLIDATED type 1900 safety relief valves are designed to be highly adaptable in order to meet numerous application requirements.

INLET SIZES:	1" through 12" either flanged, Grayloc® or sanitary fitting design
INLET RATINGS:	ANSI Class 150 through 2500
OUTLET SIZES:	2" through 16" flanged
OUTLET RATINGS:	ANSI Class 150 and 300
ORIFICE SIZES:	Sixteen sizes - D through W
SET PRESSURE RANGE:	4 psig to 6250 psig
TEMP. RANGE:	-450°F to 1500°F
MATERIALS:	Cast carbon steel body with stainless steel trim is standard. Special alloys are available for specific applications.
CERTIFICATION:	ASME Section III and VIII

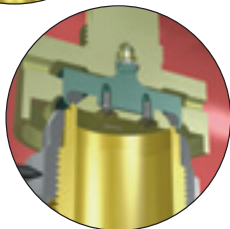
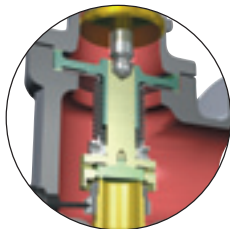
Consolidated®

1900-30

The **CONSOLIDATED** type 1900-30 includes the addition of a balanced bellows. A balanced bellows is necessary to compensate for the effects of variable back pressure. The bellows is also a cost effective solution in applications where the valve is exposed to highly viscous or corrosive fluids by isolating the upper structure and allowing the use of less expensive materials.

1900-DA

The **CONSOLIDATED** type 1900-DA contains an additional O-ring seat seal. This soft seat allows the valve to remain leak free at 95% of set pressures over 100 psig.



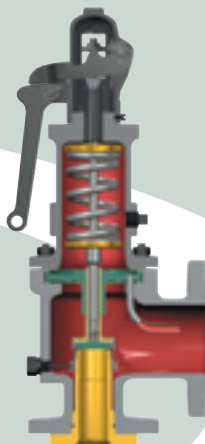
Options for **1900**™

Additional variations to the **CONSOLIDATED** type 1900 conventional safety relief valves include:

- 1900-SG:** Special materials allow this valve to be used in systems which handle sour gas.
- 1900-LA:** Special trim allows these valves to be used for applications handling liquids.
- 1900-TD:** Addition of the exclusive Temp-Compensating Thermodisc™ allows this valve to be used on steam and with organic heat transfer media.
- 1900-35:** The addition of a balancing piston will ensure set pressure and valve lift stability in the event of a bellows failure.



1900/P Series
SRV



1900/P Series™

CONSOLIDATED steam internal series has been designed for ASME Sec. 1 Non-Power Boiler and organic vapor service applications.

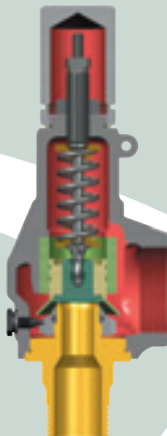
INLET SIZES:	1" through 8" flanged
OUTLET SIZES:	2" through 10" flanged
ORIFICE SIZES:	Fourteen sizes - D through T
SET PRESSURE RANGE:	4 psig to 5000 psig
TEMP. RANGE:	-20°F to 850°F
MATERIALS:	Carbon steel body with stainless steel trim is standard.
CERTIFICATION:	ASME Section I, III and VIII

Consolidated®



1982

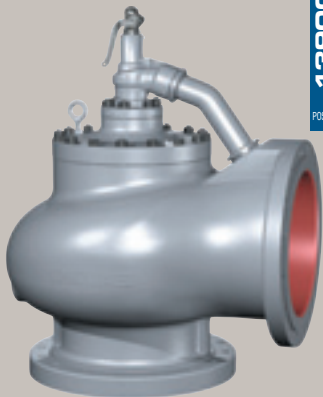
SRV



1982™

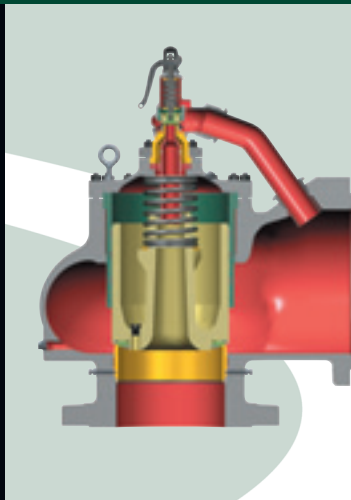
CONSOLIDATED type 1982 provides superior performance in seat tightness, capacity and blowdown on all media types.

INLET SIZES:	1/2" through 2" threaded
OUTLET SIZES:	3/4" through 2-1/2" threaded
ORIFICE SIZES:	Four sizes - .121 sq. in. through 1.399 sq. in.
SET PRESSURE RANGE:	10 psig to 500 psig
TEMP. RANGE:	-20°F to 400°F
MATERIALS:	Standard valve construction is carbon steel bonnet with stainless steel trim.
CERTIFICATION:	ASME Section VIII



13900

POSRV



13900™

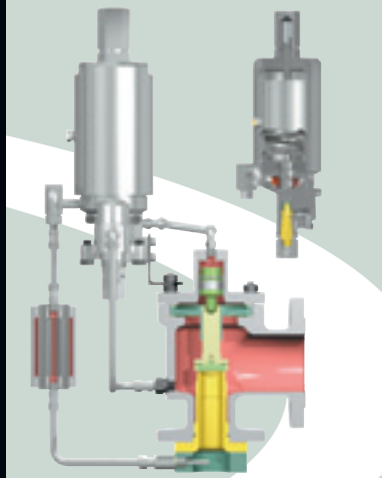
The **CONSOLIDATED** 13900 has been designed for high capacity steam applications such as turbine reheat installations.

INLET SIZES:	16" through 20" flanged
OUTLET SIZES:	18" through 24" flanged
ORIFICE SIZES:	114, 143.1, 176.7 and 201 sq. in.
SET PRESSURE RANGE:	50 psig to 300 psig
TEMP. RANGE:	250°F to 550°F
MATERIALS:	Carbon steel body with stainless steel trim is standard.
CERTIFICATION:	ASME Section VIII



2900 MPV

POSRV



2900™ MPV

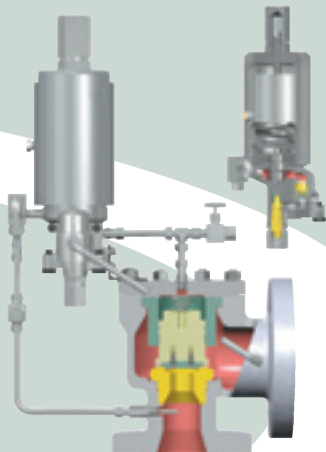
The **CONSOLIDATED** type 2900 MPV pilot operated safety relief valve is offered as both a non-flowing pop pilot and non-flowing modulating pilot within a single assembly.

INLET SIZES:	1" through 12" flanged
OUTLET SIZES:	2" through 16" flanged
ORIFICE SIZES:	Sixteen sizes - D through W
SET PRESSURE RANGE:	15 psig to 6250 psig
TEMP. RANGE:	-40°F to 505°F without heat exchanger -450°F to 1200°F with heat exchanger
MATERIALS:	All stainless steel pilot with carbon steel main valve and stainless steel trim is standard. A completely stainless steel main valve and other exotic materials are also available.
CERTIFICATION:	ASME Section VIII



3900 MPV

POSRV



3900™ MPV

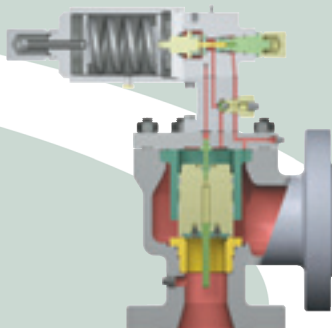
The **CONSOLIDATED** type 3900 MPV non-flowing pilot operated safety relief valve is of a modular design available in a modulating or pop action pilot. The 3900 MPV is suitable for the overpressure protection of many pressurized systems and vessels in the chemical, petrochemical, paper mill, oil and gas production and transmission industries.

INLET SIZES:	1" through 10" flanged
OUTLET SIZES:	2" through 10" flanged
ORIFICE SIZES:	Fourteen sizes - D through T plus 3" through 10" full bore
SET PRESSURE RANGE:	15 psig to 6250 psig
TEMP. RANGE:	-40°F to 505°F without heat exchanger -320°F to 650°F with heat exchanger
MATERIALS:	All stainless steel pilot with carbon steel main valve and stainless steel trim is standard. A completely stainless steel main valve and other exotic materials are also available.
CERTIFICATION:	ASME Section III and VIII



4900 MPV

POSRV



4900™ MPV

The **CONSOLIDATED** type 4900 MPV pilot operated safety relief valve is offered as the first tubeless design modulating and pop action pilot valve.

INLET SIZES: 1" through 8" flanged

OUTLET SIZES: 2" through 10" flanged

ORIFICE SIZES: Fourteen sizes - D through T

SET PRESSURE RANGE: 15 psig to 7200 psig

TEMP. RANGE: -40°F minimum
505°F maximum

MATERIALS: All stainless steel pilot with carbon steel main valve and stainless steel trim is standard. A completely stainless steel main valve and other exotic materials are also available.

CERTIFICATION: ASME Section VIII

Listing of External Certifying Organizations Auditing Our Quality

CERTIFICATE

ISO 9001
Safety Quality License
Pressure Equipment Directive
NDT
"V" Stamp
"UV" Stamp
"NB" Stamp
"VR" Stamp
"N" Stamp
"NV" Stamp
"NPT" Stamp
"NR" Stamp
Czech Reg. 192/1999Sb
GOST-R
GGTN
ISCIR

ISSUED BY

HSB Registration Services
People's Republic of China
HSB International GmbH
British Inst. Non-destructive Testing
ASME
ASME
National Board of B&PV Inspectors
National Board of B&PV Inspectors
ASME
ASME
ASME
National Board of B&PV Inspectors
Moravia Trade Systems (Czech)
Russian Govt. (commercial)
Russian Govt. (technical)
Romania Boilers & Pressure Vessels

Consolidated®

**Safety Relief Valve (SRV-1)
& Safety Valve (SV-1)**



SRV-1 & SV-1 CATALOGS

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05/05