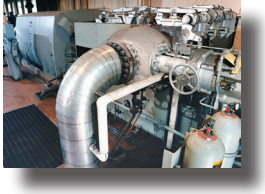


Dresser-Rand

Gimpel® Valves

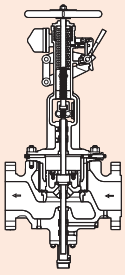
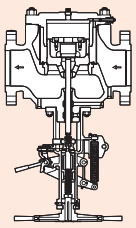
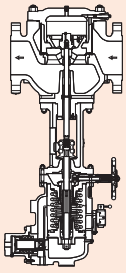
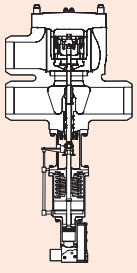
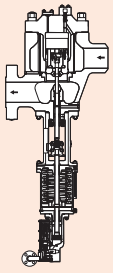
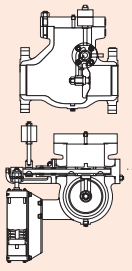
Dresser-Rand acquired the Gimpel business in April, 2007.

Gimpel® has more than 50 years of experience designing, manufacturing, and servicing trip, trip throttle, and non-return valves for steam turbine generators and API 611 and 612 steam turbine drives. As a protection and safety device, Gimpel valves are designed and manufactured in accordance with rigorous industry specifications including the following:

- API 611 and 612
- ASME/ANSI B16.34 and B16.5
- NEMA SM 23/24

Power and Process Steam Turbine Applications

Dresser-Rand Gimpel steam turbine protection valves handle a wide range of applications and are in operation in petrochemical facilities and power plants around the world. Gimpel hydraulic-operated valves use turbine-control oil systems (100 to 2500 psig / 7 to 172 bar), with sizes to 24 in (600 mm), pressure class ratings to 2500 psig, and advanced technology to achieve temperatures to 1100°F (593°C). Mechanical, latch-type valve trip cylinders operate with lubrication oil pressures as low as 10 psig (0.7 barg). Optional servo-valve and LVDT designs are available for precise flow control.

	Mechanical Latch		Oil (hydraulic) Operated			Swing Disc Non-Return
	TMTTV Top-Mechanism Trip Throttle Valve	**INTTV** Inverted-Trip Throttle Valve	**OOTTV** Oil-Operated Trip Throttle Valve	**OOPSV** Oil-Operated Position Stop Valve	**OOTV** Oil-Operated Trip Valve	**SDNRV** Extraction/Induction Power Assisted Valve
						
Operation	Push-to-Close	Pull-to-Close	Pull-to-Close	Pull-to-Close	Pull-to-Close	Free-Swinging
Size NPS —inches DN —(mm)	2-14 (50-350)	3-20 (80-500)	3-24 (80-600)	6-24 (150-600)	3-24 (80-600)	4-36 (100-900)
Pressure ANSI Class	150-1500	150-1500	150-2500	150-2500	150-2500	150-900
Temperature °F (limit) °C (limit)	950 510	950 510	1004 540	1004 540	1004 540	950 510

DRESSER-RAND

For more information on **Gimpel valves** please contact the following location:

Dresser-Rand
1210 W. Sam Houston Pkwy North
Houston, TX 77043
Tel: (Int'l +1) 713-467-2221
Fax: (Int'l +1) 713-346-2100

For a complete listing of products and services, visit **www.dresser-rand.com** or contact one of the following Dresser-Rand locations.

Dresser-Rand
Corporate Headquarters

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Houston, TX 77042 USA
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Fax: (Int'l +1) 713-354-6110
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75784 – Paris Cedex 16
Tel: (Int'l +33) 156 26 71 71
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Asia-Pacific
Dresser-Rand Asia Pacific Sdn Bhd
Unit 9-4, 9th Floor
Bangunan Malaysian Re
17 Lorong Dungun
Damansara Heights
50490 Kuala Lumpur, Malaysia
Tel: (Int'l +60) 3-2093-6633
Fax: (Int'l +60) 3-2093-2622

Form 2142

Dresser-Rand Gimpel valves offer the following features and benefits compared to other steam turbine protection and control valves:

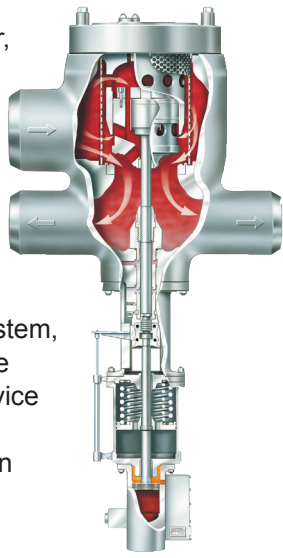
Features	Benefits
Piloted design	Reduces actuator size; offers local or remote start-up throttling
Stellite material	Prolongs life of seating services
Stems and bushings nitrided and precision ground and honed	Protects against galling; allows smooth, low friction operation and decreases stem leakage (low and high pressure leak-off connections provided)
Hydraulic valve actuators with special relays	Allows fast, consistent tripping
Hydraulic operated valves with on-line exercise (partial stroking) capability	Demonstrates freedom of movement of tripping components without affecting steam flow
Hydraulic operated valves with back-seated design	No continuous stem leakage at valve-wide-open position
Integral, removable strainer basket	Provides additional protection while minimizing steam pressure loss
Above and below seat drains	Remove condensate during warm-up
Body cover	Allows access to internals with valve in line
Hydraulic and pneumatic trip cylinders for latch type valves	Provides choice of trip cylinder working medium

Available Options

- HP or LP actuators
- Limit switches
- Electric actuator vs. handwheel
- Junction box
- Servo and LVDT
- Solenoid exerciser
- Straight, corner, or top inlet bodies
- Offset and dual outlet bodies
- Blowdown kits

Reliable, Innovative Designs for U.S. Navy Steam Turbine Applications

For more than a century, Gimpel valves have been used for U.S. Navy steam turbine applications, including main propulsion, turbine-generator, and main feed pump services. Beginning with the first nuclear powered submarine Nautlilus, Gimpel valves have been in operation and protected steam turbines on every U.S. Navy nuclear powered submarine and aircraft carrier including the CVN76 Ronald Reagan and the new CVN 77.



Dedicated Aftermarket Support for Trip Throttle Valves

The trip throttle valve is the "heart" of the turbomachinery protection system, so proper maintenance and service procedures are essential for reliable operation. Dresser-Rand provides dedicated aftermarket sales and service with 26 service centers located strategically throughout the world; parts engineered and manufactured to original specifications, including design improvements; trained service engineers and technicians; and training courses for operation and maintenance personnel.

DRESSER-RAND®