

Hydrocarbon processing

Gas compression and process refrigeration



Why choose Emerson?

Emerson is a global leader in the hydrocarbon processing industry, helping businesses operate and optimize their production, processing and distribution operations. We engineer and combine superior products and technology to address industry-specific application challenges. Vilter™ and Copeland Scroll™ compression technology are joined by globally recognized Emerson technology brands including PlantWeb™, Syncade™, DeltaV™, Fisher™, Micro Motion™, Rosemount™, Daniel™, Ovation™, AMS Suite, and Roxar™.

Emerson delivers

Vilter screw and Copeland Scroll compression technology and packaged systems are engineered, manufactured and field proven to meet the extreme operating conditions and reliability expectations demanded by oil and gas customers. Our compression solutions are used for process refrigeration and gas applications throughout the petroleum, natural gas and petrochemical industry. Emerson and its authorized business partners provide compression systems that address customer specifications related to standards such as ASME, API, ANSI, PED, NEMA, NEC and IEC.



Vilter single screw compressor



Vilter single screw gas compressors

The Vilter single screw compressor is a rotary, positive displacement compressor incorporating a single main rotor with dual opposing gate rotors. The main rotor is both axially and radially balanced. The teeth of the gate rotors intermesh with the helical grooves of the main rotor, trapping low pressure suction gas which is compressed to a higher pressure and released from discharge ports. The dual, parallel design of the Parallex™ slide valve allows infinitely variable capacity control from 10 - 100% of full load. The volume ratio slide valve enables infinitely variable control from 1.2 through 7.0.

- Discharge to 900+ psig, suction to 300+ psig
- 500 - 3,000 MCFD gas flow displacement
- 2 - 20 compression ratio capability
- Lower applied cost than multi-stage compression
- Balanced forces, quiet, vibration-free
- Independent ratio and capacity slide valves
- Variable VI 1.2 - 7.0, capacity 10 - 100%
- Electric or engine drive (integral gearing)

Vilter model range	MAWP (psig)	CFM	Compressor HP range
VSG 201-701	515	305-691	50-600
VSG 751-901	485	700-850	400-800
VSG 1051-1201	485	1070-1193	600-1400
VSG 1551-3001	535	1526-3072	800-2000
VRSH 1900-4500	350	1834-4454	1500-2700

Solutions

- Refrigeration
- Gas boosting
- Vapor recovery



Copeland Scroll gas compressors

Hermetically-welded Copeland Scroll gas compression is an exceptionally low maintenance, compact, rugged new approach to gas compression. The scroll compressor module comes equipped with many high quality features usually found only on larger compression packages. Packaged flow rates are 15-600 mcf/d, 0-150 psig single stage discharge pressure, vacuum to 25 psig suction.

All Copeland Scroll equipment is factory tested prior to shipment, assuring trouble-free system commissioning and start-up. An integrated programmable logic controller (PLC) and variable frequency drive (VFD) regulate compressor speed to precisely control gas flow and pressure to customer specified set-points.

- Hermetic design – oil/gas emissions-free
- No shaft seals, valves, rings or wear parts
- Discharge to 325+ psig, suction to 50 psig
- 20 - 400 MCFD gas flow capacity
- Electric options: 240/480 VAC, single or three phase
- Balanced forces, quiet, vibration-free
- Up to 13 compression ratios



Copeland Scroll packaged system

Applications

- Vapor recovery
- Biogas (landfill/digester)
- Process refrigeration
- Dewpoint control packages
- Gas gathering
- CO₂ injection and recovery
- Waste heat recovery
- Vent/flare gas
- Process gas cooling
- NGL extraction/fractionation
- Fuel gas boosting



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