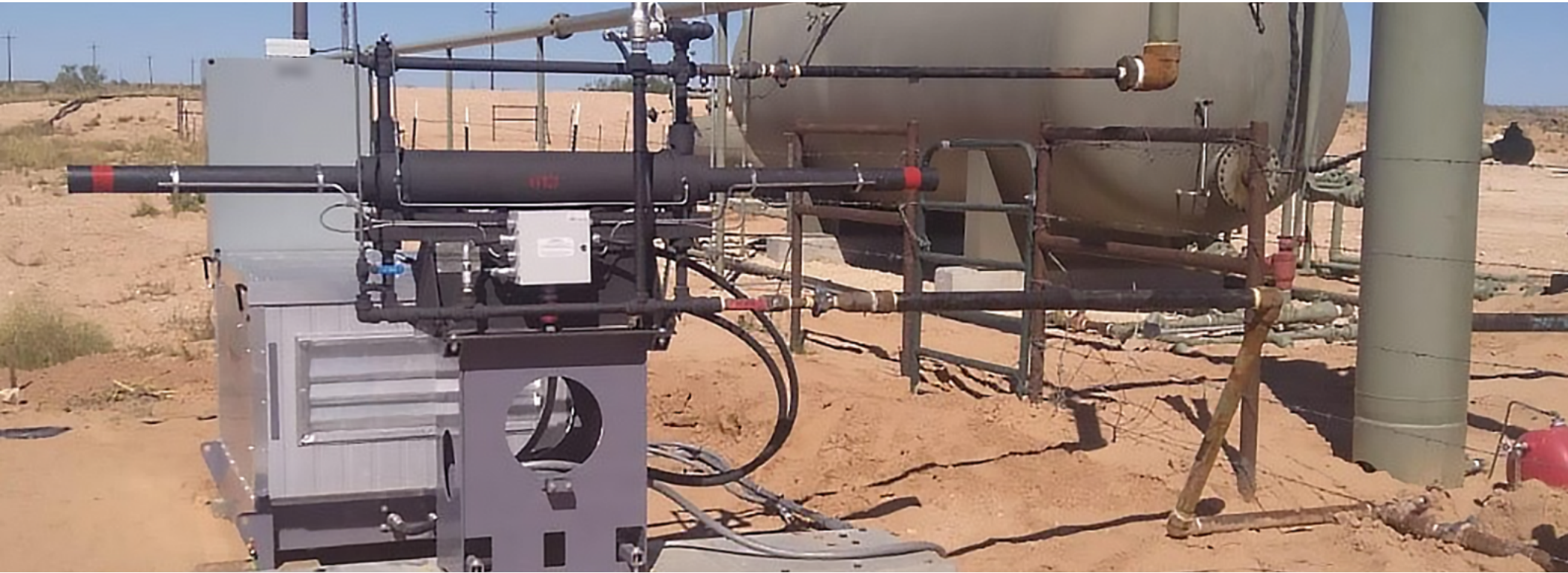


# HYDRAULIC VAPOR RECOVERY COMPRESSOR (HVR)



**Extremely Tight Suction Pressure Control | Compressor Processes Liquids | No Pneumatic Valves Or Vessels | Automated Capacity Control | SkyView Real-Time Reporting | Set & Forget PLC Control | Best-In-Class Reliability**

Vapor Recovery, the capture of methane and longer chain hydrocarbons, CO<sub>2</sub>, VOC's and hazardous air pollutants and preventing their release to the atmosphere, has become a critical requirement for today's Oil & Gas producers. A number of factors drive Vapor Recovery:

- Meeting regulatory emissions standards
- Elimination of flaring, incinerating and venting
- Capture of valuable methane and longer chain hydrocarbons for substantial revenue gain.

[Applications](#)

[Models](#)

[Case Study](#)

[Videos/Media](#)


These goals are easily realized using Compact Compression's line of Hydraulic Vapor Recovery Compression Systems (HVR). Developed from our foundational, proven HCG design, our Hydraulic VRU models have applications in gas capture from storage tanks, treaters, separators, seal vents on large reciprocating compressors used in natural gas transmission and throughout gas storage operations. The Compact Compression HVR line of compressors come with low cost of ownership and a return on investment often achieved in a matter of weeks.





Stories From The Field

Downloads

### You May Also Be Interested In Our

 [No Hassle Service Plan \(Service.html#NHSP\)](#)

 [SkyView Monitoring \(Service.html#Skyview\)](#)

 [Rental Program \(Rentals.html#Skyview\)](#)

## The Compact Compression Hydraulic Vapor Recovery Compressor Philosophy

We have focused on 3 primary technical objectives when designing our systems:

1. Compression of saturated hydrocarbon gas in the presence of liquids
2. Eliminate the need for inlet liquids separation
3. Eliminate the need for costly scheduled maintenance

## HVR Features

- ✓ **The HVR is ideally suited for wet or dry VRU applications!** Liquids, including slugs, are processed right in the compression cylinder and no inlet liquid handling equipment is required.
- ✓ **Extremely tight suction pressure control.** The HVR uses a high-resolution suction pressure transmitter to allow the system to control suction pressure to within 1 inH<sub>2</sub>O (0.6 oz/in<sup>2</sup>) of target pressure.
  - ▶ *Click to view HVR Suction Pressure Control Testing*
- ✓ **100% turndown capability.** The HVR pauses the compression stroke when it senses the supply of gas to the compressor stops, resumes when gas supply resumes.
- ✓ **HVR self-regulated capacity control.** The compressor only needs to be sized for maximum expected flowrate and the unit will auto-adjust to volumes below the maximum.
- ✓ **No VFD**
- ✓ **Unit auto-restarts after power loss**
- ✓ **No fugitive emissions.** Suction and discharge pipe spools are made of threaded joints, compressor seals are vented to compressor suction so there is no opportunity to vent to atmosphere.

- ✓ **Sour service capability.** Optional NACE compliant PSV and heavy wall piping for sour service.
  - ✓ **SkyView.** Condition-based monitoring via SkyView leads to low-cost, highly efficient demand-based maintenance.
  - ✓ **Communications with customer systems.** PLC easily interfaces with customer control systems via Modbus, Ethernet / IP protocols or other means as required.
  - ✓ **Compression cylinder field replacement.** Compression cylinders are fully field-replaceable and have an average field life of 2 years prior to rebuild.
  - ✓ **Low maintenance.** Average maintenance interval is 2 visits / year (across 1,000 units)
  - ✓ **Low hydraulic oil consumption.** ~0.025 gal/d - oil top up twice / year
  - ✓ **Highly experienced engineering support.** >150 performance upgrades implemented over 5 years.
  - ✓ **HVR configurability & versatility.** Hydraulic Vapor Recovery models are configurable for a wide operating envelope to meet  $\Delta P$  and production rate requirements.
  - ✓ **Wide operating ambient temperature range.** -40°F to 130°F (-40°C to 55°C)
  - ✓ **Best in class reliability!** >99% uptime.
  - ✓ **Low cost of installation and ownership**
  - ✓ **Availability & delivery timing.** For most models 4 to 8 weeks delivery.
- 

## Hydraulic Vapor Recovery System (HVR) Model Comparison

### HYDRAULIC VAPOR RECOVERY COMPRESSORS FOR SOUR SERVICE

The Hydraulic Vapor Recovery Compressor product line is suitable for sour gas service. All process wetted structural or pressure containing metal parts are constructed of low-carbon steels that comply with the NACE MR0175 sour service standard. Chemical composition and hardness meet the requirements for usage in SSC region 3, as defined by part 2 of the standard. All elastomers and polymers used for seals are materials selected for resistance to sour gas and acid attack. The gas seal distance pieces are vented back to suction to ensure gas only needs to be vented when service work on the compression element is required. All process piping has been designed to ASME B31.3 Normal service, 1500 psi MAWP, and all units are hydrostatic tested, including the compression cylinder. For service greater than 2000 ppm, Compact Compression offers optional corrosive service piping for increased corrosion allowance via thicker wall pipe and fittings.

## Hydraulic Vapor Recovery Compressor System (HVR) Model Comparison

| Model                   | Compressor Cylinder          | Max ΔP                     | Capacity<br>Suction @ 0 psi                               |
|-------------------------|------------------------------|----------------------------|---|
| HVR10                   | <b>506</b><br>5" (11.2 cm)   | <b>110 psi</b><br>758 kPa  | <b>19 mscf/d</b><br>0.5 e <sup>3</sup> m <sup>3</sup> /d  |
| HVR15                   | <b>613</b><br>6" (15.2 cm)   | <b>140 psi</b><br>965 kPa  | <b>30 mscf/d</b><br>0.8 e <sup>3</sup> m <sup>3</sup> /d  |
|                         | <b>616</b><br>6" (15.2 cm)   | <b>350 psi</b><br>2413 kPa | <b>11 mscf/d</b><br>0.3 e <sup>3</sup> m <sup>3</sup> /d  |
| HVR50                   | <b>1020</b><br>10" (25.4 cm) | <b>190 psi</b><br>1310 kPa | <b>64 mscf/d</b><br>1.8 e <sup>3</sup> m <sup>3</sup> /d  |
|                         | <b>1022</b><br>10" (25.4 cm) | <b>225 psi</b><br>1551 kPa | <b>45 mscf/d</b><br>1.3 e <sup>3</sup> m <sup>3</sup> /d  |
|                         | <b>1028</b><br>10" (25.4 cm) | <b>375 psi</b><br>2586 kPa | <b>9 mscf/d</b><br>0.3 e <sup>3</sup> m <sup>3</sup> /d   |
| HVR75<br>Dual Cylinders | <b>1020</b><br>10" (25.4 cm) | <b>190 psi</b><br>1310 KPa | <b>127 mscf/d</b><br>3.6 e <sup>3</sup> m <sup>3</sup> /d |
|                         | <b>1022</b><br>10" (25.4 cm) | <b>225 psi</b><br>1551 KPa | <b>90 mscf/d</b><br>2.5 e <sup>3</sup> m <sup>3</sup> /d  |
|                         | <b>1028</b><br>10" (25.4 cm) | <b>375 psi</b><br>2586 KPa | <b>18 mscf/d</b><br>0.5 e <sup>3</sup> m <sup>3</sup> /d  |

Suction @ 0 psi. Performance at sea level (STP: 68°F, 14.696 psi).

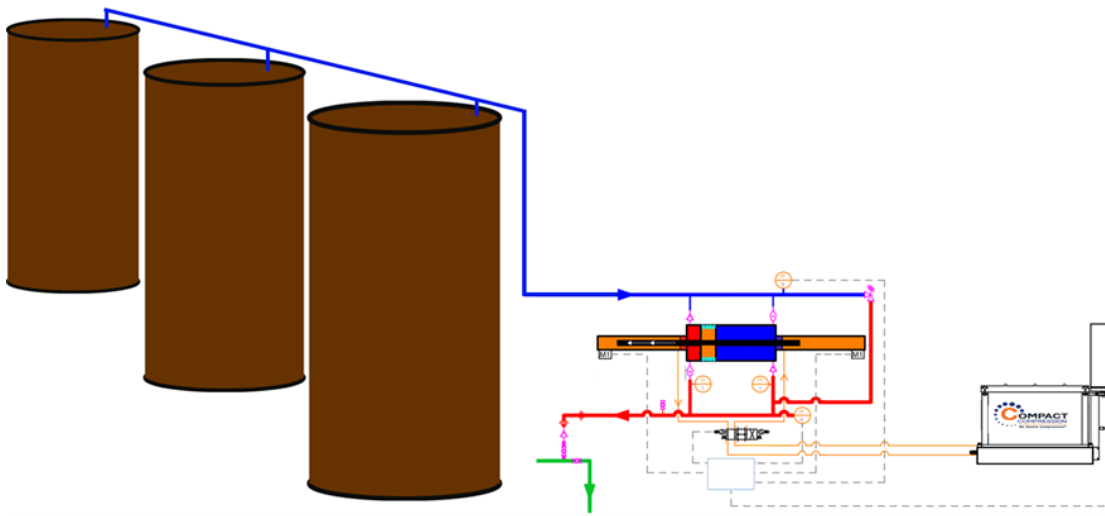
Additional configurations available to meet your pressure and flow requirements.

## Hydraulic Vapor Recovery Compressor (HVR) Schematic

\*Information is provided as a guideline only, contact (downloads/Hydraulic Vapor Recovery Compressor (HVR) Schematic 3Feb23.pdf)

Hydraulic Vapor Recovery  
Compressor (HVR) Schematic  
PDF

(downloads/Hydraulic Vapor Recovery Compressor (HVR) Schematic 3Feb23.pdf)



## Options

- ✓ Power Pack Enclosure
  - ✓ Hydraulic Heat Trace
  - ✓ Inlet Particle Filter
  - ✓ Configurable for varying operating DP and flow (Options for motor, hydraulic pump, compression cylinder size, multi-stage units)
  - ✓ Electric or gas drive available
  - ✓ Skid or trailer mounted units
- 

## Video Clips



0:00 / 0:50

HVR Liquid Handling Video (Video/WaterDrink2017.mov)

## Gallery



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