# IPETRONIK

# IPEcomp R134a

## Validation test bench for electric and mechanical refrigerant compressors

- Suitable for mechanical and electrical compressors
- Simulation of operating conditions in the HVAC cycle
- VDA complied mounting bracket with decoupled seismic mass
- Manual and automated test operation
- Inline measurements of oil curculation ratio (OCR)
- Endurance tests , FAT (Factory Acceptance Tests), etc.
- Supports NVH tests and gas pulsation measurements
- Easy compressor exchange by automatic coolant evacuation
- Intuitive test bench control via IPEmotion software



| Device | |
|---|---|
| Supported Refrigerants | R134a R1234yf |
| Service Connections | HP / LP (7/16" UNF) |
| Dimensions | B3800 mm x H2700 mm x T1600 mm (149.61 in x 106.30 in x 63.00 in) |
| Number of pressure gauges | PLC-controlled / touch panel |
| Number of pressure gauges | 2 |
| HP gauge - hot gas pressure | -1 ... 40 bar |
| LP gauge - suction pressure | -1 ... 15 bar |
| Working temperature range | 20 ... 40 °C (50 ... 104 °F) max. 70 % r.H. |
| Power Supply | 2 x 63 A, 400 VAC |
| **Supply** | |
| Refrigerant amount test circuit | 1.0 kg (R134a) |
| Supported coolants | Brine (70 % water / 30 % glycol) |
| Coolant temperature inlet | 6 °C |
| Coolant mass flow | 2500 kg/h |
| Coolant differential pressure | $\Delta p > 0.8$ bar ($p > 1.5$ bar) |
| **Control ranges** | |
| Discharge pressure range | 8 ... 28 bar |
| Suction pressure range | 1.5 ... 6 bar |
| Superheating - suction line | 5 ... 40 K |

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| | |
|---|---|
| Refrigerant mass flow | 30 ... 300 kg/h |
| Ambient temperature of the compressor | -30 ... 120 °C (-22 ... 248 °F) / optionally -40 ... 150 °C |
| Air velocity in chamber | 0 ... 8 m/s (VDA 6 m/s standard) |
| Torque measurement range | 0 ... 50 Nm |
| **Mechanical compressor** | |
| Magnetic clutch | on/off, 12 VDC & 24 VDC |
| Control ECV | 0 ... 1000 mA |
| Compressor speed | 700 ... 10000 rpm |
| **Electric compressor** | |
| Control | e.g. LIN / CAN IPEmotion |