The 3 types · side-by-side

Distributor-facing reading. Each row gives best-for, key trade-off, capacity, price band, and how many of SPC's tier slots carry an option at that product type.

PRODUCT TYPE	BEST FOR	KEY TRADE-OFF	TYPICAL CAPACITY	PRICE BAND	BRANDS SPC CARRIES
Inlet Control Valve CAPACITY CONTROL · THROTTLES AIR-END INTAKE	**Rotary-screw capacity control and intake seal.** Lubricated rotary-screw compressors (fixed-speed and VFD) plus large reciprocating machines. Throttles intake air to match output to demand under load; seals the air-end on unload and shutdown so the separator tank can vent through the unloader path, not back out the intake.	COMPRESSOR-SPECIFIC · DIAGNOSTIC-FIRST Configuration varies by OEM and year of manufacture: a model-level cross-reference (and sometimes manufacturer tech support) is required. Symptoms overlap with the control solenoid, with the intake housing off, watch the valve during a commanded load: if the solenoid clicks but the valve doesn't move, the valve is the part. Healthy valves run 5–10+ years between failures.	5 – 500+ HP rotary-screw match butterfly · poppet · solenoid- or pressure-actuated	$$ – $$$	1 / 5 · CONRADER ONLY
Unloader Valve STARTUP VENT + LOAD/UNLOAD CONTROL	**The single largest energy lever on a fixed-speed screw.** Reciprocating compressors (every start) and rotary-screw load/unload duty. Vents the head to atmosphere at startup for a zero-backpressure motor start; on continuous-run machines, dumps the separator tank on unload so the air-end spins freely at ~25–35 kW instead of full-load 90 kW on a 100 HP machine.	HIGHEST-WEAR CONTROL VALVE · CYCLES EVERY START Cycles hundreds of thousands of times per year on a typical industrial duty cycle; healthy life is 3–7 years. Symptoms divide cleanly: stuck-closed = won't unload and electric bill doubles; stuck-open = won't load and audible hissing at the exhaust port; pilot/solenoid failure mimics both: isolate before quoting.	~20 – 60 SCFM body sizes standalone · combination (unloader + pilot + check) units	$ – $$	1 / 5 · CONRADER ONLY

Thermostatic Valve OIL-TEMPERATURE REGULATOR · COOLER-VS-BYPASS BLENDING	**Holds the air-end in its designed temperature band.** Every lubricated rotary-screw compressor. Wax-element or bimetal actuator routes oil through the cooler (above set point) or around it via bypass (below set point), blending the two to hold the sump at the original OEM setpoint (typically 160–180°F) across changing load and ambient.	WRONG SETPOINT = WHOLE COMPRESSOR OFF-DESIGN Setpoint is the critical cross-reference spec: a 160°F valve and a 180°F valve are different parts, and installing the wrong one shifts the entire operating band. Stuck bypassed = compressor runs hot, separator loads early, eventual high-temp trip. Stuck full-flow-to-cooler = runs cold, water condenses into the sump, oil emulsifies.	Matched to OEM make/model/HP setpoint stamped on valve body	$$	1 / 5 · KELTEC ONLY

Reading the brand bench column: the bar shows how many of SPC's tier slots (Industry Leader · Emerging · Economical · adjacent) carry an option at that product type. A narrow bench here is by design: compressor internal valves are specialist aftermarket cross-references, not a tier shop. Conrader anchors the capacity-control and unloader cross-reference catalog for North American compressor OEMs; KELTEC anchors thermostatic valves and separator service. Both ship same-day or next-day from US stock at 40–60% of OEM list pricing.