

# Valves



## piSAVE® release

- Equalises pressure in the suction cups to provide fast release of the product.
- Extra fast release by accumulating and utilising the feed-air pressure as a boost.
- ON/OFF activated simultaneously with the ejector.
- No additional controls required — use a single 3/2 control valve for the ejector and piSAVE® release.



## AQR

- Equalises pressure in vacuum gripper systems to provide fast release of product.
- Consumes no additional compressed air.
- ON/OFF activated simultaneously with the ejector.
- No additional controls required — use a single 3/2 control valve for the pump and AQR.



## QR

- For vacuum pump P3010.
- Quick release by accumulating and utilising the feed-air pressure as a boost.
- ON/OFF activated simultaneously with the P3010
- Three sizes for optimising release volume with system volume.

## TECHNICAL DATA

Description	Flow, atmospheric	Volume (Quick-Release)
piSAVE® release G1/8"	3.85 NI/s	–
piSAVE® release G1/4"	7.85 NI/s	–
Atmospheric quick-release valve – AQR	3.3 NI/s	–
Quick-Release module P3010	–	3 cm <sup>3</sup>
Quick-Release tank module P3010	–	30 cm <sup>3</sup>
Quick-Release tank module P3010	–	60 cm <sup>3</sup>

## ORDERING INFORMATION

Description	Item No.
piSAVE® release G1/4"	0119720
piSAVE® release G1/8"	0119721
Atmospheric quick-release valve – AQR.	0111236
Quick-Release tank module P3010, 30 cm <sup>3</sup>	0104272
Quick-Release tank module P3010, 60 cm <sup>3</sup>	0104273



## piSAVE® sense

- Vacuum check valves which allows a few suction cups to miss the object(s) and still maintain enough vacuum level in the system with quick response and release times.
- The vacuum check valves shall be used in a centralized vacuum system, one for each suction cup.
- Designing with vacuum check valves will require a smaller vacuum pump and save energy.
- Suitable for handling different size or different number of leaking or sealed objects such as MDF boards, corrugated cardboards or metal sheets with a flexible handling device.
- Also suitable for objects with surface leakage around the lip of the suction cup.
- Available in four sizes with different flow performance/ characteristics to suit different degree of leakage on handled material and different size of cups.
- The smallest sizes are mainly suitable for sealed and smooth materials, such as metal and glass (02/06 for small cups and 03/60 for large cups).
- The valves are supplied separately for integration or mounted in an AI-fitting with female and male threaded connections to facilitate installation.



## piSAVE® restrict

- Vacuum flow restrictors which allows a few suction cups to miss the object(s) and still maintain enough vacuum level in the system.
- Suitable for handling different size sealed sheets/objects with the same flexible lifting device.
- The vacuum flow restrictors shall be used in a centralized vacuum system, one for each suction cup.
- Designing with flow restrictors will require a smaller vacuum pump and save energy.
- Available in three sizes with different flow performance/ characteristics to suit different size suction cups.
- The restrictors are integrated in an AI-fitting with female and male threaded connections to facilitate installation.

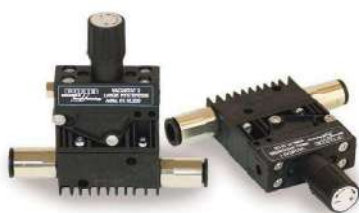
## TECHNICAL DATA

Description	Pump flow/cup min.	Pump flow/cup to close valve	Leakage flow, max.
piSAVE® sense 02/60 (yellow)	0.001 (@ 45 -kPa) NI/s	0.21 (@ 3 -kPa) NI/s	–
piSAVE® sense 03/60 (green)	0.06 (@ 45 -kPa) NI/s	0.37 (@ 3 -kPa) NI/s	–
piSAVE® sense 04/60 (blue)	0.15 (@ 45 -kPa) NI/s	0.55 (@ 7 -kPa) NI/s	–
piSAVE® sense 05/60 (red)	0.25 (@ 45 -kPa) NI/s	0.72 (@ 11 -kPa) NI/s	–
piSAVE® restrict multiple port fitting 0.7	–	–	0.08 NI/s

Description	Pump flow/cup min.	Pump flow/cup to close valve	Leakage flow, max.
piSAVE® restrict multiple port fitting 1.0	–	–	0.16 Nl/s
piSAVE® restrict multiple port fitting 1.3	–	–	0.27 Nl/s

**ORDERING INFORMATION**

Description	Item No.
piSAVE® sense 02/60 (yellow), 100p, incl. Assembly tool	0202395
piSAVE® sense 02/60 (yellow), 10p, incl. Assembly tool	0202394
piSAVE® sense 03/60 (green), 100p, incl. Assembly tool	0202427
piSAVE® sense 03/60 (green), 10p, incl. Assembly tool	0202424
piSAVE® sense 04/60 (blue), 100p, incl. Assembly tool	0202428
piSAVE® sense 04/60 (blue), 10p, incl. Assembly tool	0202425
piSAVE® sense 05/60 (red), 100p, incl. Assembly tool	0202429
piSAVE® sense 05/60 (red), 10p, incl. Assembly tool	0202426
piSAVE® sense Assembly tool 16mm	0202589
piSAVE® sense Multiple port fitting 02/60 (yellow)	0202396
piSAVE® sense Multiple port fitting 03/60 (green)	0128719
piSAVE® sense Multiple port fitting 04/60 (blue)	0128731
piSAVE® sense Multiple port fitting 05/60 (red)	0128733
piSAVE® restrict multiple port fitting 0.7	0129339
piSAVE® restrict multiple port fitting 1.0	0129340
piSAVE® restrict multiple port fitting 1.3	0129341



## piSAVE® onoff

- Independent pneumatic air-saving device for vacuum pumps.
- Adjustable vacuum controlled 2/2 NO valve.
- Available with large hysteresis for object handling and small hysteresis for process applications.
- The Vacustat is recommended for vacuum pumps in non-leaking systems.
- The vacuum pump must be fitted with a non-return valve.



## Blow-off Check valve

- Prevents vacuum from being pulled through the blow-off lines, which means faster response time and completely independent vacuum units.
- Reliable quick-release function even in larger systems with several units, due to the very low feed pressure required to break away for blow-off.
- Suitable in applications where cleaning of the suction cup filters or cooling of the object to be picked is important.

### TECHNICAL DATA

Description	Flow	Flow rate
piSAVE® onoff	7.3 NI/s (@ P1=6 bar & Δp=0.5 bar)	–
Blow-off Check valve	–	1.5–2.8 NI/s (@ 0.3–0.7 MPa)

### ORDERING INFORMATION

Description	Item No.
piSAVE® onoff with small hysteresis	0118100
piSAVE® onoff with large hysteresis	0118200
Blow-off Check valve 1/8" NPSF female.	0115314
Blow-off Check valve G1/4" female	0117337

## Valves – Vacuum check valves



Vacuum Check Valve VT-1H

- Check valve that traps vacuum in sealed applications for safe operation.
- Built-in blow off check valve for fast release of object.
- Available in lock pin 16, 19 or ball joint mountings, industry standard.
- Available with level compensator to compensate for differences in level of object.



Vacuum Check Valve VT-1H with COAX®

- Two-stage COAX® cartridge MINI Pi12-2 integrated.
- Check valve that traps vacuum in sealed applications for safe operation.
- Built-in blow off check valve for fast release of object.
- Available in lock pin 16, 19 or ball joint mountings, industry standard.
- Available with level compensator to compensate for differences in level of object.



Vacuum Check Valve VT-1H Vacustat with COAX®

- Two-stage COAX® cartridge MINI Pi12-2 integrated.
- Check valve that traps vacuum in sealed applications for safe operation.
- Built-in blow off check valve for fast release of object.
- Integrated energy-saving device, Vacustat results in virtually no air consumption in sealed applications.
- Available in lock pin 16, 19 or ball joint mountings, industry standard.
- Available with level compensator to compensate for differences in level of object.

### TECHNICAL DATA

Description	Vacuum flow, max.
Vacuum Check Valve VT-1H	0.68 NI/s
Vacuum Check Valve VT-1H with COAX®	0.68 NI/s
Vacuum Check Valve VT-1H Vacustat with COAX®	0.68 NI/s

**ORDERING INFORMATION**

Description	Item No.
Vacuum Check Valve VT-1H, NPT threads, Lock pin 19, Right hand connection	0125579
Vacuum Check Valve VT-1H, NPT threads, Lock pin 19, Left hand connection	0125580
Vacuum Check Valve VT-1H, NPT threads, Lock pin 16, Right hand connection	0125581
Vacuum Check Valve VT-1H, NPT threads, Lock pin 16, Left hand connection	0125582
Vacuum Check Valve VT-1H, NPT threads, Ball joint, Right hand connection	0125583
Vacuum Check Valve VT-1H, NPT threads, Ball joint, Left hand connection	0125584
Vacuum Check Valve VT-1H, G threads, Lock pin 19, Right hand connection	0125573
Vacuum Check Valve VT-1H, G threads, Lock pin 19, Left hand connection	0125574
Vacuum Check Valve VT-1H, G threads, Lock pin 16, Right hand connection	0125575
Vacuum Check Valve VT-1H, G threads, Lock pin 16, Left hand connection	0125576
Vacuum Check Valve VT-1H, G threads, Ball joint, Right hand connection	0125577
Vacuum Check Valve VT-1H, G threads, Ball joint, Left hand connection	0125578
Vacuum Check Valve VT-1H with level compensator, NPT threads, Lock pin 19, Right hand connection	0121043
Vacuum Check Valve VT-1H with level compensator, NPT threads, Lock pin 19, Left hand connection	0121042
Vacuum Check Valve VT-1H with level compensator, NPT threads, Lock pin 16, Right hand connection	0121029
Vacuum Check Valve VT-1H with level compensator, NPT threads, Lock pin 16, Left hand connection	0121030
Vacuum Check Valve VT-1H with level compensator, NPT threads, Ball joint, Right hand connection	0121061
Vacuum Check Valve VT-1H with level compensator, NPT threads, Ball joint, Left hand connection	0121060
Vacuum Check Valve VT-1H with level compensator, G threads, Lock pin 19, Right hand connection	0121014
Vacuum Check Valve VT-1H with level compensator, G threads, Lock pin 19, Left hand connection	0120992
Vacuum Check Valve VT-1H with level compensator, G threads, Lock pin 16, Right hand connection	0121009

Description	Item No.
Vacuum Check Valve VT-1H with level compensator, G threads, Lock pin 16, Left hand connection	0109231
Vacuum Check Valve VT-1H with level compensator, G threads, Ball joint, Right hand connection	0121020
Vacuum Check Valve VT-1H with level compensator, G threads, Ball joint, Left hand connection	0120993
Vacuum Check Valve VT-1H COAX®, NPT threads, Lock pin 19, Right hand connection	0121039
Vacuum Check Valve VT-1H COAX®, NPT threads, Lock pin 19, Left hand connection	0121038
Vacuum Check Valve VT-1H COAX®, NPT threads, Lock pin 16, Right hand connection	0121025
Vacuum Check Valve VT-1H COAX®, NPT threads, Lock pin 16, Left hand connection	0121026
Vacuum Check Valve VT-1H COAX®, NPT threads, Ball joint, Right hand connection	0121057
Vacuum Check Valve VT-1H COAX®, NPT threads, Ball joint, Left hand connection	0121056
Vacuum Check Valve VT-1H COAX®, G threads, Lock pin 19, Right hand connection	0119573
Vacuum Check Valve VT-1H COAX®, G threads, Lock pin 19, Left hand connection	0111147
Vacuum Check Valve VT-1H COAX®, G threads, Lock pin 16, Right hand connection	0121007
Vacuum Check Valve VT-1H COAX®, G threads, Lock pin 16, Left hand connection	0109276
Vacuum Check Valve VT-1H COAX®, G threads, Ball joint, Right hand connection	0121018
Vacuum Check Valve VT-1H COAX®, G threads, Ball joint, Left hand connection	0110435
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Lock pin 19, Right hand connection	0121045
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Lock pin 19, Left hand connection	0121044
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Lock pin 16, Right hand connection	0121031
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Lock pin 16, Left hand connection	0121032
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Ball joint, Right hand connection	0121063
Vacuum Check Valve VT-1H COAX® with level compensator, NPT threads, Ball joint, Left hand connection	0121062

Description	Item No.
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Lock pin 19, Right hand connection	0121015
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Lock pin 19, Left hand connection	0120991
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Lock pin 16, Right hand connection	0121010
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Lock pin 16, Left hand connection	0109278
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Ball joint, Right hand connection	0121021
Vacuum Check Valve VT-1H COAX® with level compensator, G threads, Ball joint, Left hand connection	0120990
Vacuum Check Valve VT-1H Vacustat with COAX®, NPT threads, Ball joint, Right hand connection	0127837
Vacuum Check Valve VT-1H Vacustat with COAX®, NPT threads, Ball joint, Left hand connection	0127836
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Lock pin 19, Right hand connection	0121013
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Lock pin 19, Left hand connection	0120995
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Lock pin 16, Right hand connection	0121008
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Lock pin 16, Left hand connection	0120994
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Ball joint, Right hand connection	0121019
Vacuum Check Valve VT-1H Vacustat with COAX®, G threads, Ball joint, Left hand connection	0119676
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Lock pin 19, Right hand connection	0121016
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Lock pin 19, Left hand connection	0120998
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Lock pin 16, Right hand connection	0121011
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Lock pin 16, Left hand connection	0120996
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Ball joint, Right hand connection	0121022
Vacuum Check Valve VT-1H Vacustat with COAX® with level compensator, G threads, Ball joint, Left hand connection	0120997

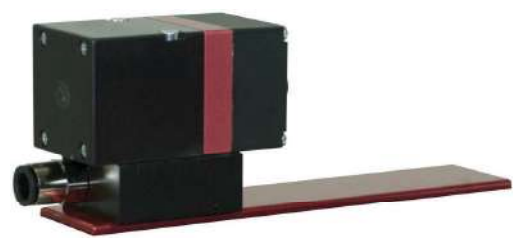


# Regulators



## piSAVE® optimize

- Vacuum controlled proportional pressure regulator, a fully pneumatic device suitable for air-driven ejectors/pumps.
- The feed pressure to the vacuum pump/ejector is automatically regulated and controlled to maintain the set vacuum level. Air/energy usage is kept to a minimum for the application (optimized).
- Recommended for leaking and sealed applications to save energy and secure the right vacuum level.
- Extra port for Vacuum gauge.
- Air ventilation port with filter.
- Swivel compressed air connections.
- piSAVE® optimize gives maximum feed pressure/flow to vacuum pump/ejector until vacuum level starts to build up.
- Separate mounting bracket kit.
- Upgrade kit - available as an integrated module for piCLASSIC and Classic vacuum pumps.



## PCC (Piab Cruise Control)

- For vacuum pump P6010.
- Programmable for constant vacuum level.
- The signal input regulates the feed pressure to maintain a constant vacuum level.
- Integrated analogue vacuum sensor.

### TECHNICAL DATA

Description	Vacuum flow
piSAVE® optimize	1.67–15 NI/s
PCC (Piab Cruise Control)	0–18.3 NI/s

### ORDERING INFORMATION

Description	Item No.
piSAVE® optimize stand-alone 25-70 -kPa G3/8"	0128999
piSAVE® optimize standalone 25-70 -kPa 3/8" NPT	0129000
piSAVE® optimize upgrade kit piCLASSIC/Classic	0129002
PCC (Piab Cruise Control)	PCC (Piab Cruise Control)