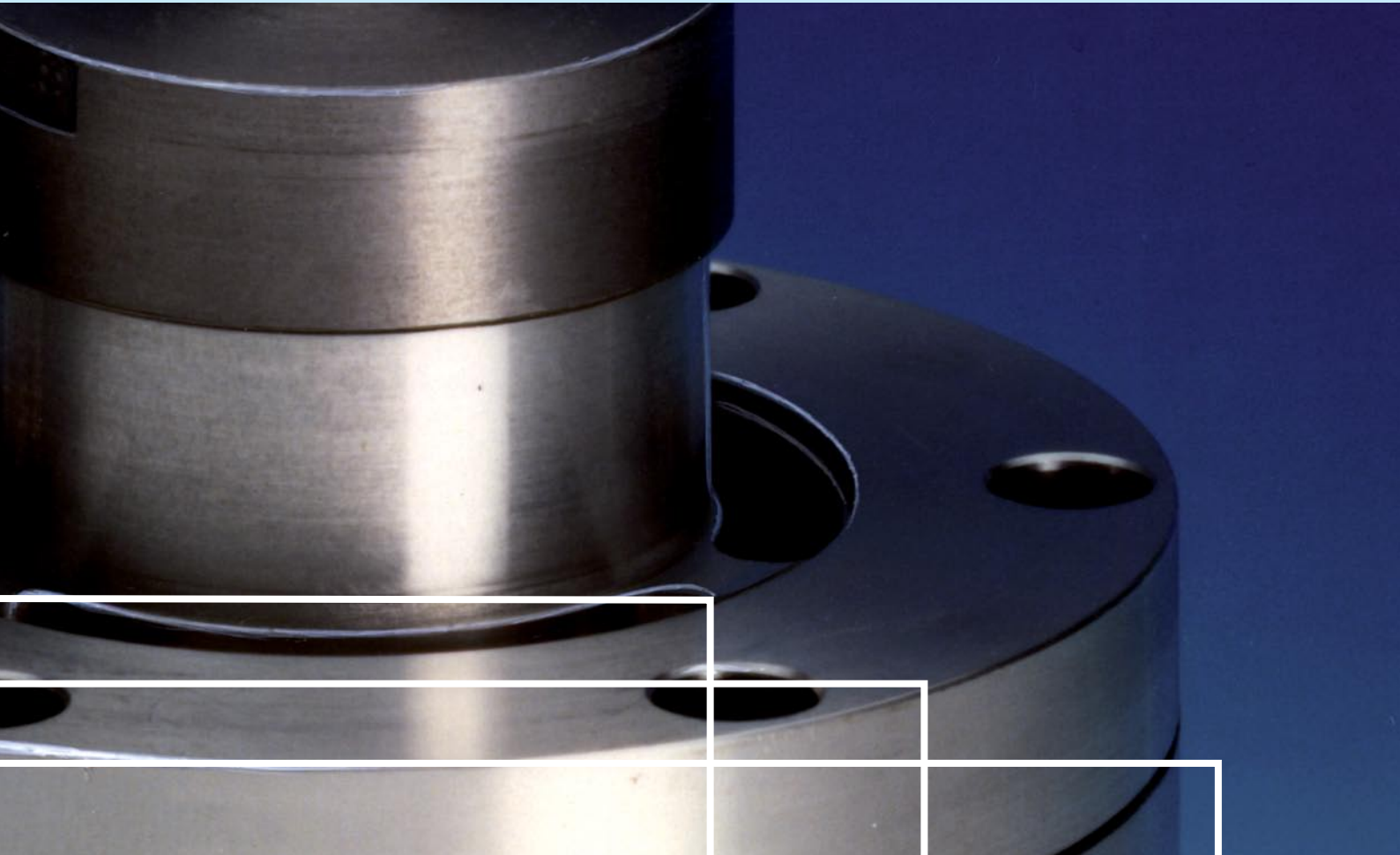




Highest Quality and Precision

DIENES – Control Valves for Screw Compressors

dienes.de



2007



DIENES Throttle Valves Type KN

are used to control the intake volume. Closed in a slant position towards the incoming flow, they seal metalically against the housing. Plain bearings with self-lubricating bushings.

DIENES Pressure Regulators

are connected in front of the suction regulator or to the pneumatic control cylinder of the throttle valve. Continuously control the intake volume depending upon the final pressure - positive proportional (DV-P regulator) or negative proportional (DV-N regulator).

The operating pressure can be regulated infinitely.

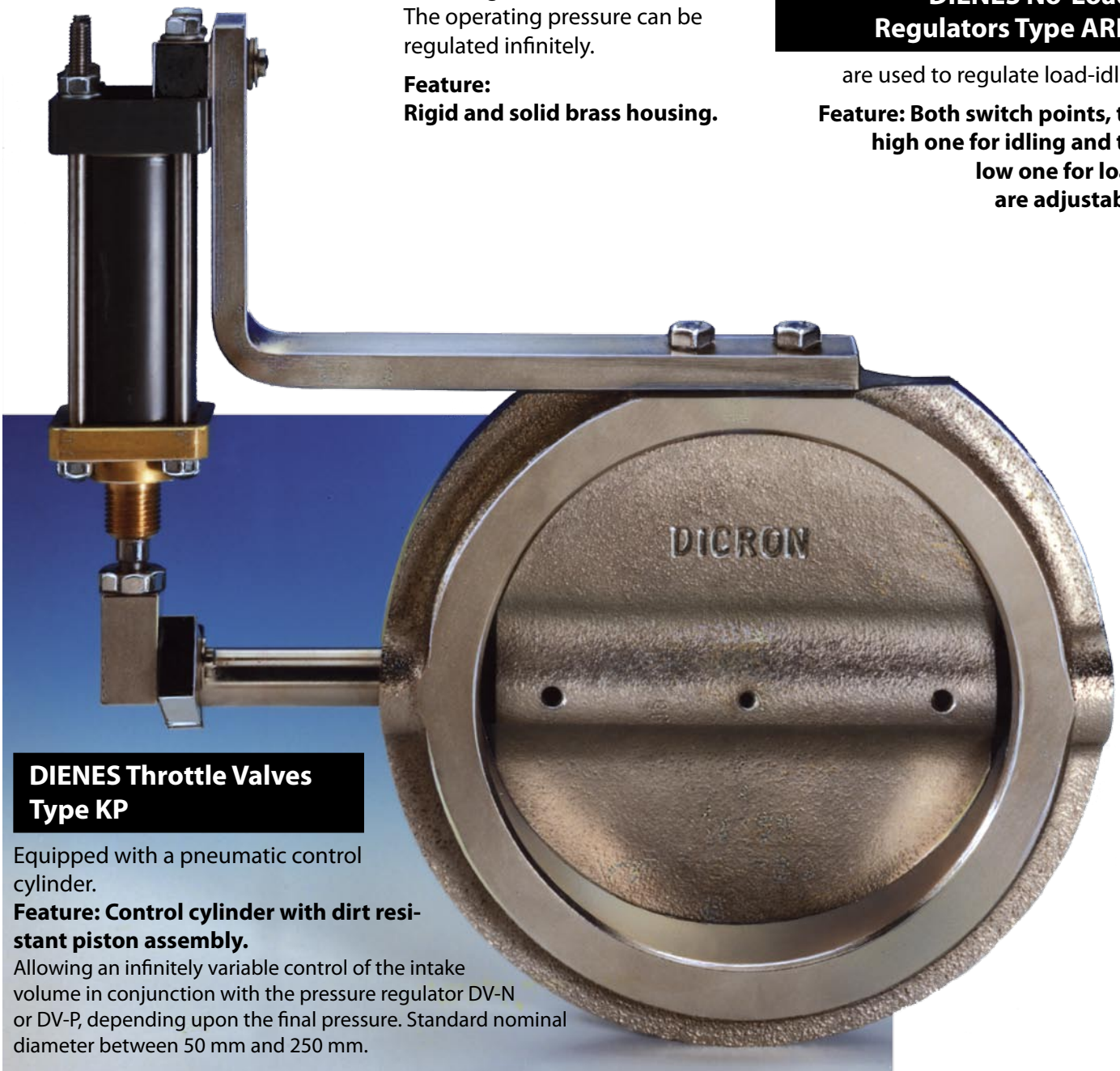
Feature:
Rigid and solid brass housing.



DIENES No-Load Regulators Type ARK

are used to regulate load-idling

Feature: Both switch points, the high one for idling and the low one for load, are adjustable.

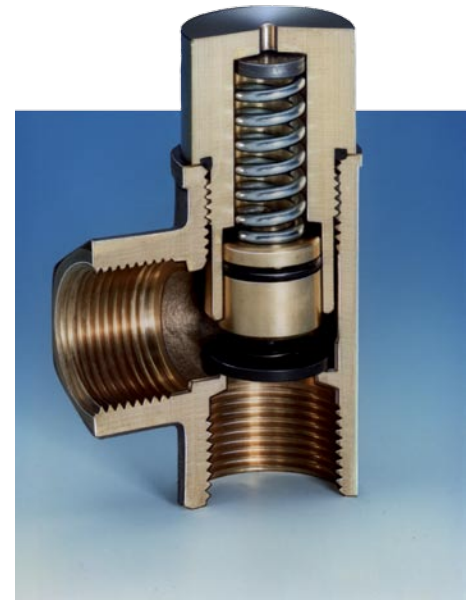


DIENES Throttle Valves Type KP

Equipped with a pneumatic control cylinder.

Feature: Control cylinder with dirt resistant piston assembly.

Allowing an infinitely variable control of the intake volume in conjunction with the pressure regulator DV-N or DV-P, depending upon the final pressure. Standard nominal diameter between 50 mm and 250 mm.



Feature: Up to a nominal diameter of 100 mm, the housing is made from a rigid brass casting, starting at a nominal diameter of 125 mm, the material is grey cast iron

DIENES Minimum Pressure Valves Type HS

Guarantee a minimum pressure of the system required for the operation of oil-flooded screw compressors. The integrated non-return valve, as a part of the minimum pressure valve, prevents a reverse flow when the regulation is set to zero delivery or the machine is turned off. The minimum pressure of the system is infinitely adjustable within a range of 2.5 to 5 bar, as a standard.

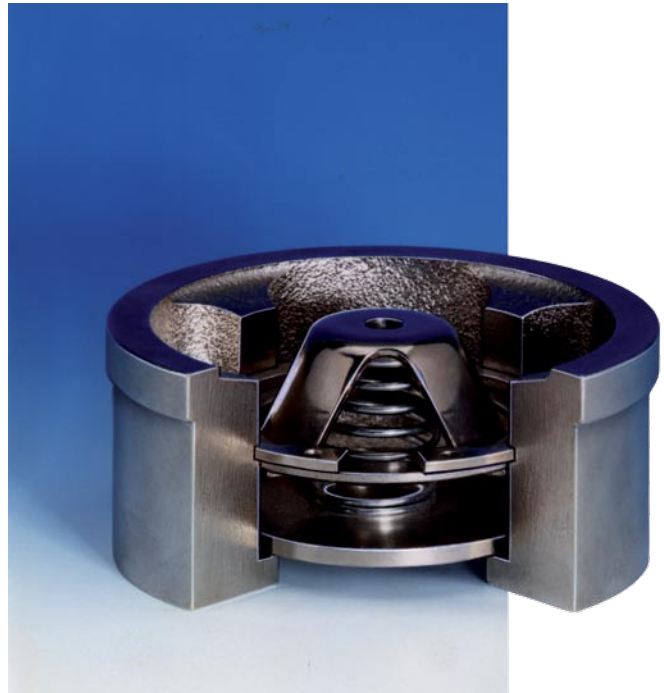
Available Types:

- Globe Valve – Screw End
- Type MDV from ND 20 to ND 100
- Globe Valve – Flange End
- Type FDV from ND 65 to ND 150
- Angle Valve – Screw End
- Type MEV from ND 20 to ND 80
- Angle Valve – Flange End
- Type FEV from ND 65 to ND 100

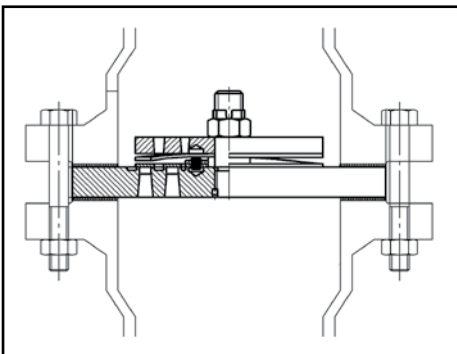


DIENES Non-Return Valves Type RN / RS

Used when dealing with liquid or oil containing mediums as a protection against reverse flow. The valve plate is spring loaded in such a way that it closes reliably at low pressure differentials. Fitting between flanges according to DIN 2501 NP6 / NP16. Available dimensions of type RN from ND 25 up to 125 mm and type RS ND 150 mm.



DIENES Non-Return Valves Type DL - RF



These non-return valves are a completion to the non-return valves of the series RN respectively RS. The valve plate is frictionless guided by means of a flexible arm system. Allowing the installation in pipings at any mounting position between flanges according to DIN 2501 NP6 / NP16. Standard available dimensions ND 65 – 250 mm. Other sizes on request.



DIENES Suction Regulator Type ASD / ASE

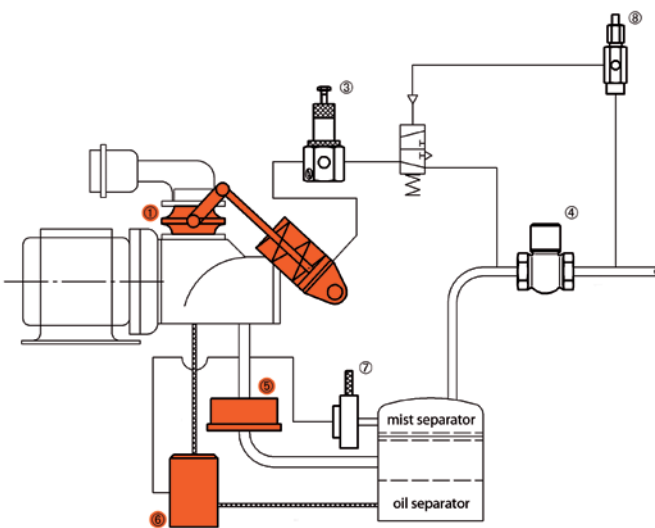
In many cases, oil-flooded screw compressors are regulated without using an oil-stop valve and a non-return valve, provided the housing of the screw end and the seals of the drive shafts are pressure resistant. In this case, a control unit has to be connected to the suction part of the compressor, which reliably and fast shuts off the suction line to prevent the release of a mixture of oil and air into the suction filter and the environment.

Such a control unit is the DIENES Suction Regulator Type ASD. It combines the control elements: throttle valve, oil-stop valve, non-return valve and bypass valve into one unit.

Features:

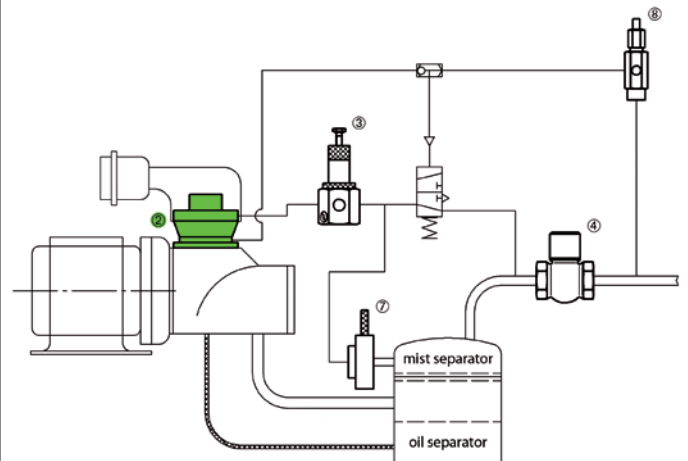
- space saving and compact design
- only one common unit for the continuous regulation of the displacement and the control of reverse flow
- in case of reverse flow, it closes fast and reliably because of the central guidance of the valve plate
- three different regulating methods are possible
 - open – closed regulation
 - infinite regulation, positive proportional (starting of the compressor with open control unit)
 - infinite regulation, negative proportional (start in the unloaded mode with closed control unit)
- teflon guided control piston guarantees erratic-free motion and minimum hysteresis
- integrated bypass valve (at negative-proportional regulation)
- easy adaptation to various space and fit dimensional conditions and compressor types are possible

Regulation without Suction Regulator ASD / ASE



- ① DIENES Throttle Valve with Pneumat. Control Cylinder - Type KP
- ③ DIENES Pressure Regulator - Type DV-P / DV-N
- ④ DIENES Minimum Pressure Valve - Type HS
- ⑤ DIENES Non-Return Valve - Type RN / RS
- ⑥ DIENES Oil Stop Valve - Type SNZ
- ⑦ DIENES Air Relief Valve - Type LN
- ⑧ DIENES No-Load-Regulator - Type ARK

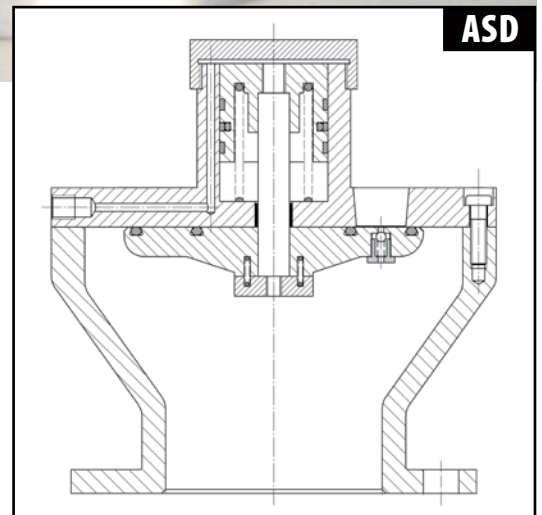
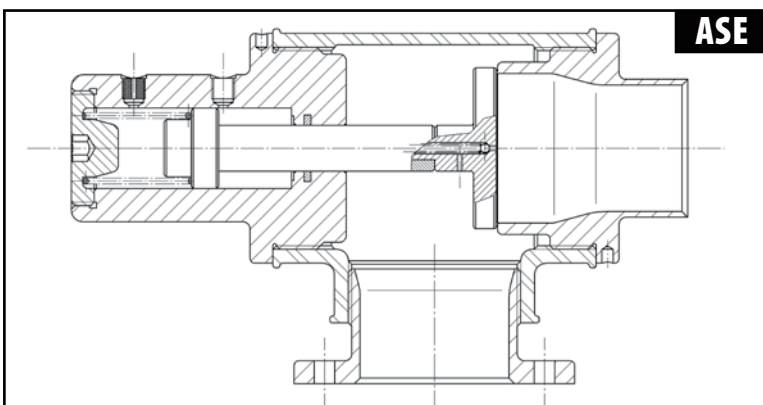
Regulation with Suction Regulator ASD / ASE



- ② DIENES Suction Regulator - Type ASD
- ③ DIENES Pressure Regulator - Type DV-P / DV-N
- ④ DIENES Minimum Pressure Valve - Type HS
- ⑦ DIENES Air Relief Valve - Type LN
- ⑧ DIENES No-Load-Regulator - Type ARK

DIENES Suction Regulator Type ASD / ASE

The DIENES Suction Regulators are mounted directly onto the screw housings. The air filter can be connected either directly to the suction regulator or a hose can be attached to the existing bracket, connecting suction regulator and air filter. Additional connections for control and monitoring valves upon request.



**DIENES Suction Regulator
Type ASD 3**

Further development of the production series ASD for the direct installation onto the cscrew housing.

Flow optimized with the scheduled one Screw compressor block.
Adaptation to all common ones Screw compressor blocks possibly.
Additional connections for tax and supervision-valves/sensors upon request.

**DIENES Suction Regulator
Type ASE 2**

Further development of the production series ASE for the direct installation onto the cscrew housing.

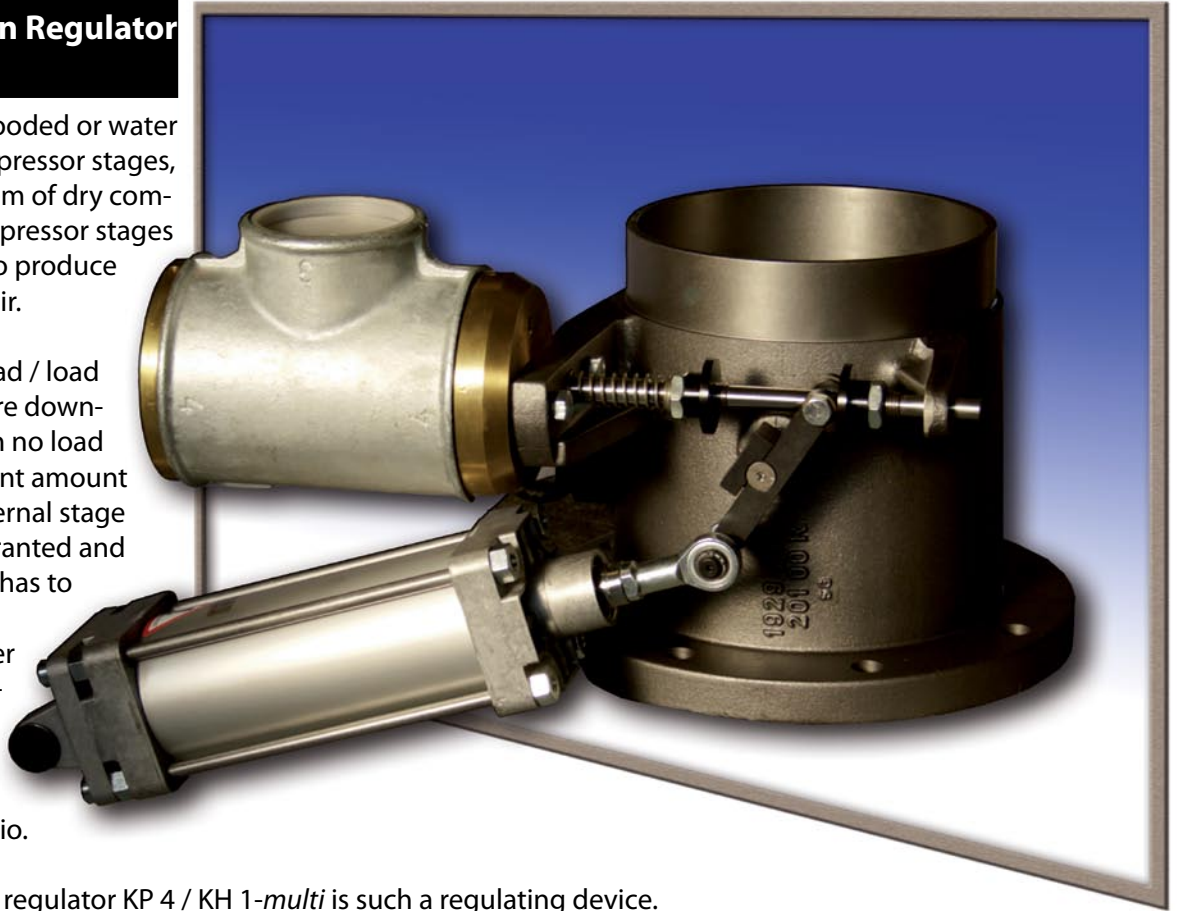
Installation optimized form particularly narrow installation conditions by angle form.

Flow optimized with the scheduled one Screw compressor block.
Adaptation to all common ones Screw compressor blocks possibly.
Additional connections for tax and supervision-valves/sensors upon request.

DIENES Suction Regulator Type KP4

Different from oil flooded or water injected screw compressor stages, the regulation system of dry compression screw compressor stages must be modified to produce completely oilfree air.

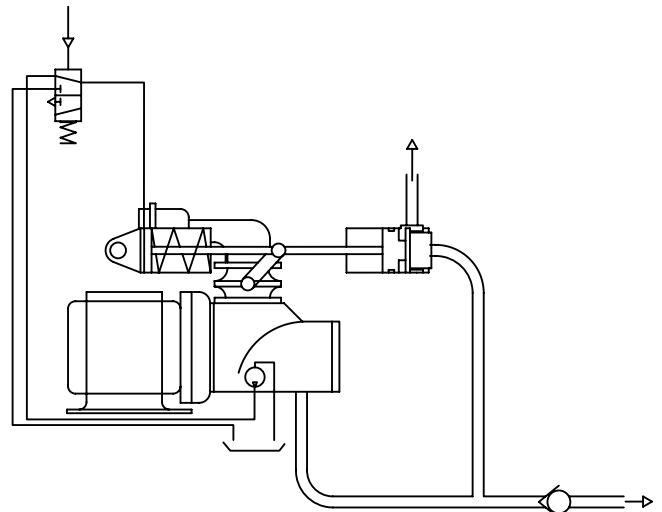
In addition to no load / load running, they require down-lock mechanisms. In no load operation, a sufficient amount of bypass air for internal stage cooling has to be granted and the compressed air has to be released against atmosphere, in order to prevent the compressor stage from overheating due to an excessive internal compression ratio.



The DIENES suction regulator KP 4 / KH 1-*multi* is such a regulating device.

Features:

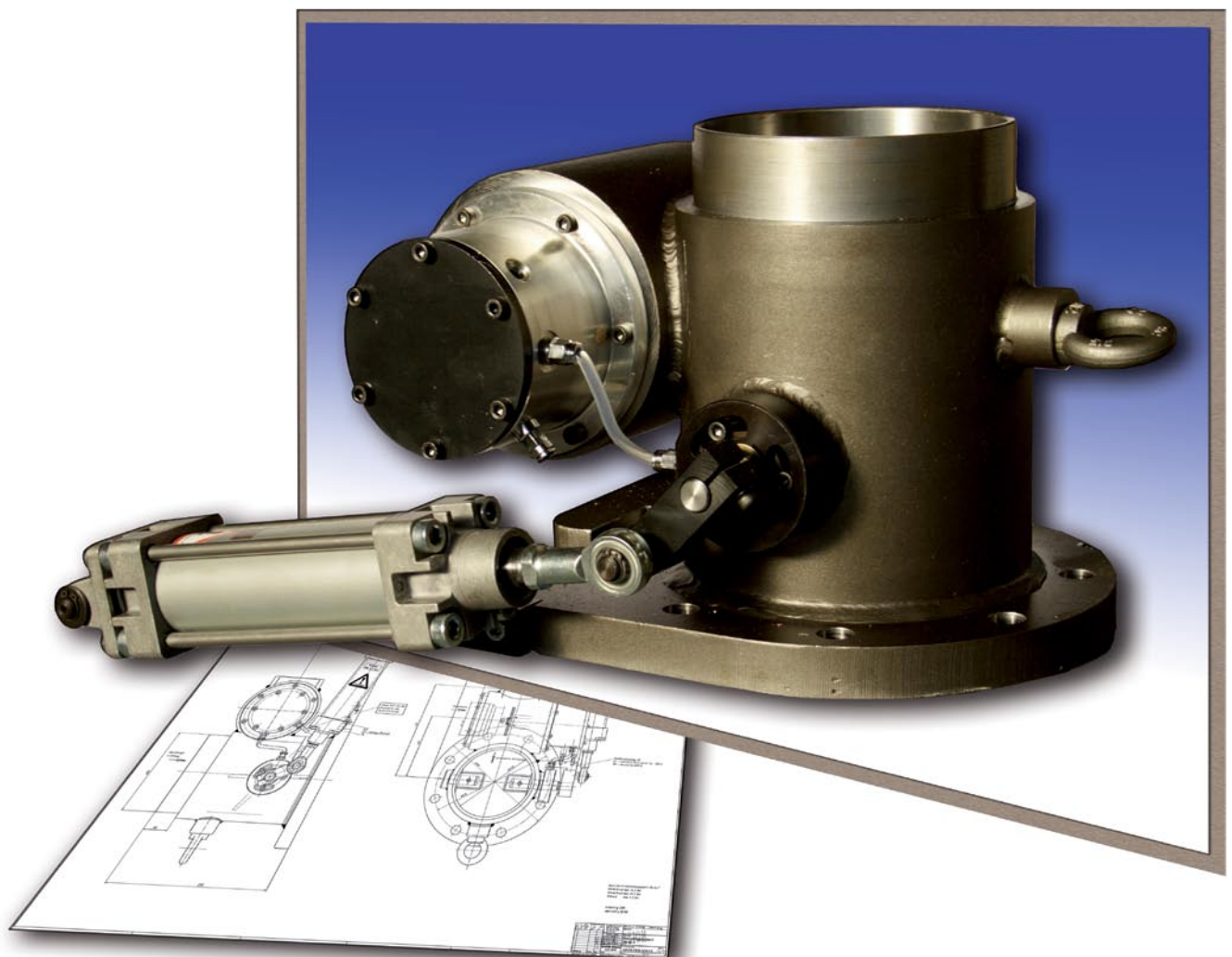
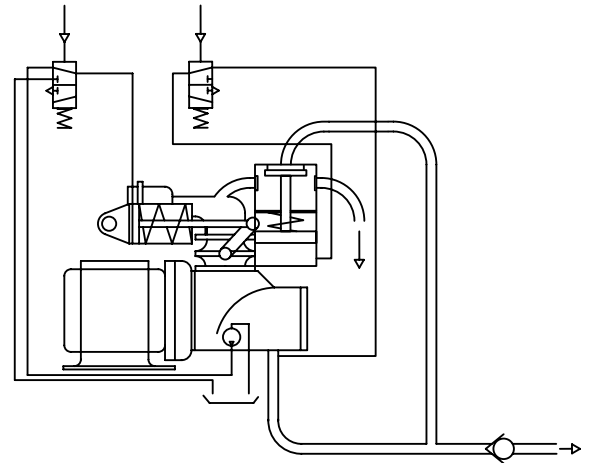
- **safe control via lube oil pressure:**
An unintended switch to load operation due to insufficient bearing lubrication is excluded.
- easy adjustment of the bypass cross section
- mechanical forced coupling between load position of the regulating device and no load position of the relief valve
- adjustable regulating points of the relief valve
- easy, robust and long-term proven construction
- low-friction valve guiding due to large teflon piston guiding



DIENES Suction Regulator Type KH1-multi

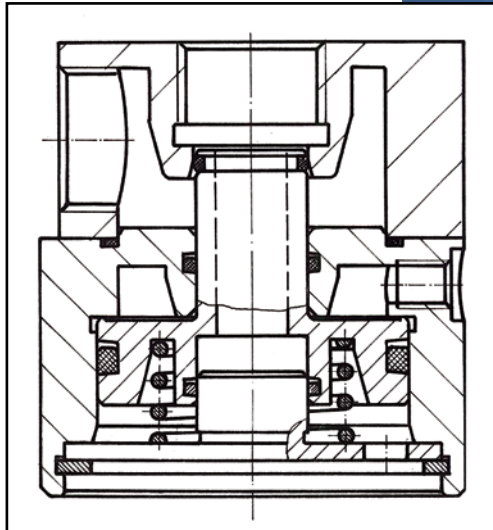
Features:

- advancement of the proven suction regulator of type KP 4
- hydraulic control of the regulating device via lube oil pressure, optionally control via control air
- easy adjustment of the bypass cross section
- easy adaptation to different pressures ranges and delivery Volume
- realisation of a load-controlled flow rate regulation
- optionally relief via external silencer or, in the case of systems with aftercoolers, internal, closed relief circuit
- easy maintenance, robust and compact design
- variable adjustment of the relief function (forced relief for system protection)



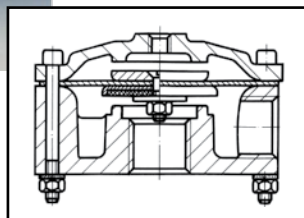
DIENES Oil Stop Valves Type SNZ

Upon turning off the compressor, they disconnect reliably the oil circulation, necessary for the cooling and lubrication under load conditions, and as the discharge pressure is dropping, they prevent the screw housing from getting flooded with oil and oil being released into the intake filter



DIENES Air Relief Valves Type LN

Used to bleed the compressor system automatically. They are closed when regulation pressure and system pressure are identical. As the operating pressure decreases, the machine gets discharged. Silencers can be provided.



DIENES QM-System ISO 9001:2000

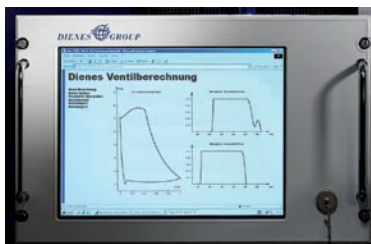
Customer orientation is one of the aims of our company. On this note all areas of our company are working according to the rules of our Quality Management System. Our customers shall receive products which correspond to the agreed and expected requirements.

Since 1994 our QM-System is certificated according to the Norm DIN ISO 9001. In April 2007 the QM-System was subject to a certification according to Norm ISO 9001:2000.

Thereby, GlobalCert again certified an excellent application and practise of our Quality Management System.

The Quality Management which is practiced by all of our employees is a good basis for a trustful and long cooperation with our customers. Also in the future our customers can trust in our high quality production standard.

In order to even get a better knowledge of our customers' demands and expectations we continuously let our customer judge our work.



Dienes Service Station

- valve plates and valve springs in all shapes and sizes
- performance and service life optimisation based on computer simulation
- valve maintenance and repair service by the manufacturer
- pick-up and drop-off service

Additional DIENES products from our delivery program

- compressor and pump valves
- slotted plate valves
- slotted valve plates according to Dienes standard or customer design
- ring valves / valve components
- frictionless plate valves
- combined suction and discharge valves
- reed and strip valves
- refrieration valves with low clearance volume
- suction and discharge valves for piston pumps
- power valves for vacuum pumps
- safety valves



Dienes Valves for rotary types of compressors

non-return valves
minimum pressure valves
oil stop valves
relief valves
throttle valves (pilot operated)
pressure ratio regulators
suction control units
control unit system assemblies

Dienes Valves for reciprocating compressors

slotted plate valves
multi ring valves
frictionless plate valves
combined suction and discharge (concentric) valves
reed valves
strip valves
reduced clearance volume valves
piston pump valves
plate type check valves
safety valves
compressor control systems
valve plates, springs, parts of every type and size



Precision since 1913

DIENES WERKE

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