



Components for minerals. Innovative wear protection concepts for maximum economy.

»» Years of experience for a long service life: Coperion components for the minerals industry. We are the leading manufacturers in the global market for bulk material system components. Our in-depth, specialized knowledge in this field is not only based on a long tradition – we are learning more every single day.

**THERE ARE MANY REASONS WHY COPERION IS THE IDEAL PARTNER FOR THE MINERALS INDUSTRY:**

- » We have experience with more than 14,000 bulk materials.
- » In our test center we simulate wear conditions and define the optimal wear protection (DuroProtect level).
- » Coperion components are long-lasting, high-quality products for all applications.
- » Our DuroProtect levels for rotary valves guarantee maximum service life and availability.

**COPERION BULK MATERIAL COMPONENTS SUCH AS ROTARY VALVES AND DIVERTER VALVES FOR:**

**Cement industry**

- » Raw mix
- » Cement
- » Clinker powder
- » Bypass dust
- » Solid fuels

**Ore processing**

- » Crude ore
- » Finished products

**Power plants**

- » Solid fuels
- » Ash

**Lime industry**

- » Calcium carbonate
- » Dolomite
- » Lime (hydrated/  
non-hydrated)
- » Solid fuels

**Construction industry**

- » Render
- » Sand
- » Dry mortar

**Aluminium industry**

- » Alumina

**Wood industry**

- » Sanding dust
- » Wood powder

**Ceramics industry**

- » Clay/kaolin
- » Fireproof materials

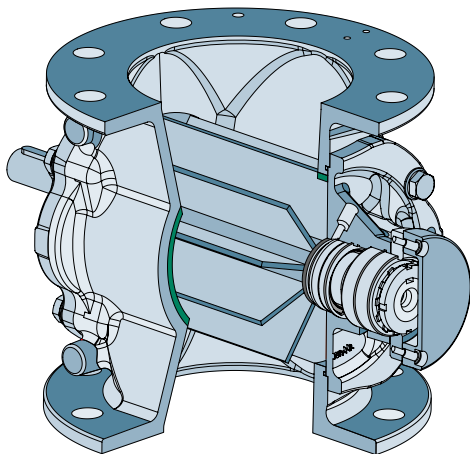


## EFFICIENT CONVEYING AND DISCHARGE – COPERION ROTARY VALVES

We supply a wide range of rotary valves of different designs and various materials with individual wear protection packages.

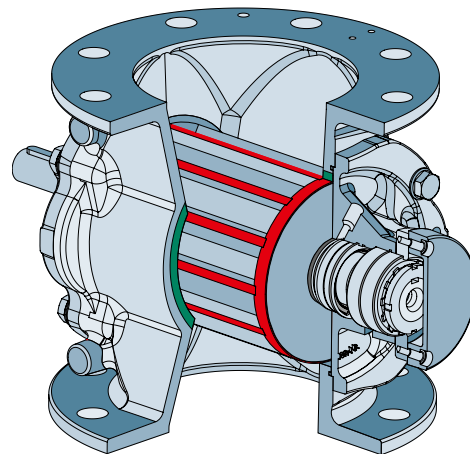
### › DUROPROTECT 1-2, ROTARY VALVE TYPE ZRD FOR SLIGHTLY ABRASIVE BULK MATERIALS

- › Very low air leakage rate
- › Wear protected by the use of chrome coating



### › DUROPROTECT 3-5, ROTARY VALVE ZRC FOR HIGHLY ABRASIVE BULK MATERIALS

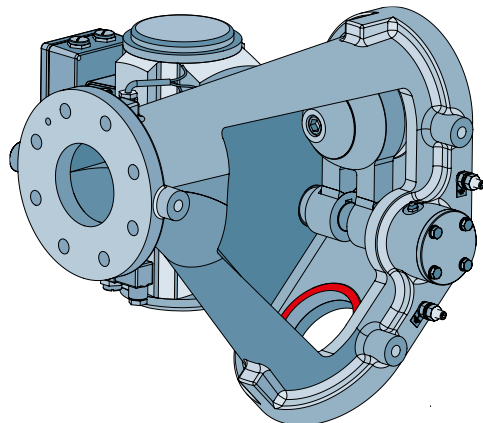
- › Design incorporates erosive wear protection (closed rotor)
- › Wear protection with chrome coating, tungsten carbide and ceramic reinforcement



## PERFECT CONTROL OF PRODUCT FLOWS – COPERION DIVERTER VALVES

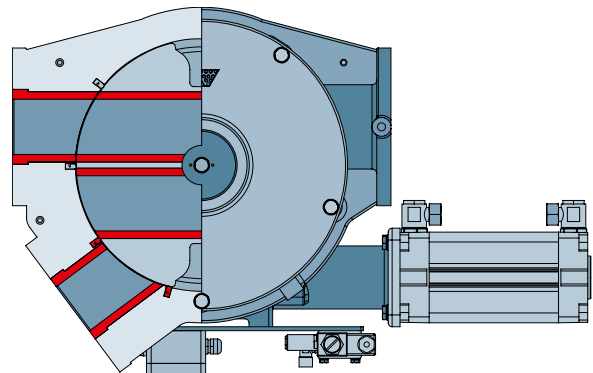
### › TWO-WAY DIVERTER VALVE TYPE WRK MADE OF GREY CAST IRON FOR RELIABLE DIVERSION

- › Wear protected by a cushion of bulk material
- › Minimal number of seals and moving parts
- › Available as a diverging and converging diverter
- › Can be installed in all positions
- › 45° outlet for the connection of conventional pipe bends



### › TWO-WAY DIVERTER VALVE TYPE WZK, WEAR-RESISTANT VERSION

- › Residue-free
- › Wear protection with customized pipe inserts
- › Available as a diverging and converging diverter
- › Can be installed in all positions



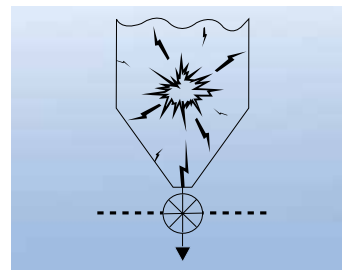
## SPECIAL TECHNOLOGY FOR THE MINERALS INDUSTRY

### ATEX certified versions against propagation of explosions

- › With ATEX protection system, flameproof, for dust types St 1 and St 2
- › Pressure surge-proof up to +10 bar

### High-temperature versions

- › For reliable transport of bulk materials at temperatures of up to 450 °C



## WEAR PROTECTION PACKAGES FOR ROTARY VALVES

MINERALS						PROTECTION PACKAGE	HOUSING	ROTOR
Non-abrasive	Lime*	Powdered coal*	Ash*	Cement*	Alumina*	Standard	Grey cast iron	Steel
Low abrasion						DuroProtect 1	DuroChrome	Steel
Slightly abrasive						DuroProtect 2	DuroChrome	Steel
Medium abrasion						DuroProtect 3	DuroChrome	DuroChrome
Very abrasive						DuroProtect 4	DuroChrome	DuroCarb
Highly abrasive						DuroProtect 5	DuroCera	DuroCarb

\* Depending on the bulk material properties and the operating conditions.

### HOUSING WITH CERAMIC LINING

- › Seamless lining with fitted solid ceramics for the technically highest possible wear protection. Precise finishing ensures a reliably low leakage gas volume.



### ROTARY VALVE WITH TUNGSTEN CARBIDE WELDING (NON-MACHINED)

- › The tungsten carbide matrix is optimized to suit the particle size of the bulk material. This ensures a long service life of the rotor.



### TWO-WAY DIVERTER VALVE TYPE WZK WITH CERAMIC PIPE INSERTS

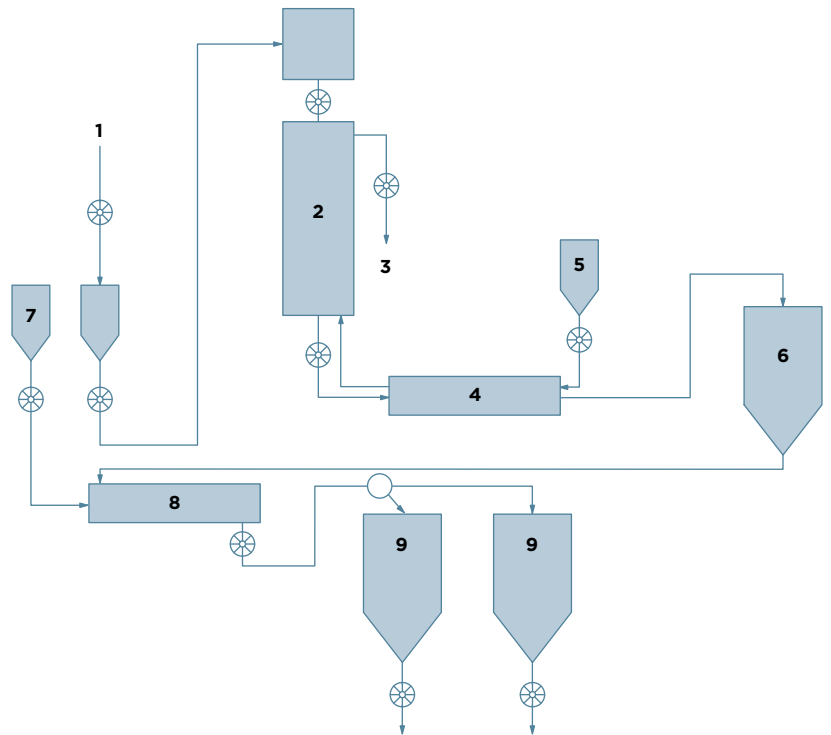
- › Monolithic pipe inserts guarantee the longest possible service life.



➤ **EXAMPLE APPLICATIONS FOR OUR COMPONENTS**

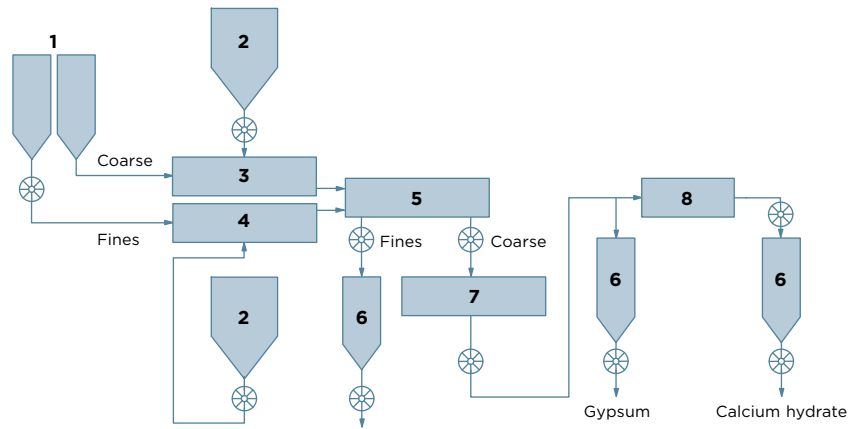
➤ **CEMENT WORKS**

- 1 Raw mix
- 2 Cyclone pre-heater with bypass dust extraction
- 3 Bypass dust
- 4 Rotary kiln
- 5 Fuel
- 6 Clinker storage
- 7 Additives
- 8 Clinker grinding
- 9 Dispatch



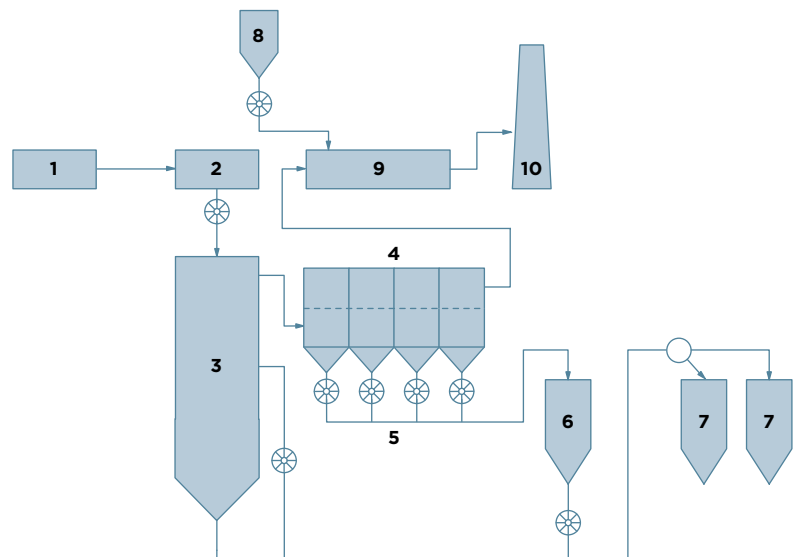
➤ **LIME WORKS**

- 1 Raw matte bunker
- 2 Solid fuel
- 3 Rotary kiln
- 4 Shaft kiln
- 5 Sieve plant
- 6 Dispatch
- 7 Grinding
- 8 Hydrating plant



➤ **POWER PLANTS FOR SOLID FUELS**

- 1 Solid fuel
- 2 Grinding
- 3 Burner
- 4 Fly ash filter
- 5 Deashing
- 6 Intermediate hopper
- 7 Ash silo
- 8 Lime
- 9 Exhaust gas cleaning
- 10 Flue



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