CARO®TEC-SYSTEM PLUNGER TIP

Low-wear plunger tip concept for shot sleeves

Very long service life

Chooseable cooling capacity to optimise cycle time
CARO®TEC-SYSTEM PLUNGER TIP

Several new developed types of plunger tips:

CARO®TEC-Compact
Basic version

CARO®TEC-II  NEW
Optimised cooling capacity

CARO®TEC-III  NEW
Improved crash behaviour

CARO®TEC-COOL  NEW
Extreme cooling capacity

Proven advantages:

- Body, clamping nut and threaded connection can be reused several times
- All wear parts can be reworked to a smaller diameter
- With environmentally friendly beryllium and cobalt-free slide bushings
- Much longer lifetime compared to conventional plunger tips
- Optimised tempering by forced cooling
- The modular construction system ensures flexibility (even for casting intermediate sizes)
- Reduced set-up costs and down time due to longer service life of the plunger tips.

A service centre with an extensive stock is available to our customers. In addition, we offer advisory service and process development on the spot.
CARO® VAK-VACUUM PLUNGER TIP
Vacuum casting on vacuum-casting machines
or conventional die-casting machines

Developed for structural and vacural die casting

Low-wear plunger tip concept for shot sleeves

Very long service life
CARO®VAK-VACUUM PLUNGER TIP
Vacuum casting on vacuum machines or conventional pressure die-casting machines

CARO VAK
Basic version

CARO VAK-II
Optimised cooling capacity

Advantages of the CARO®VAK-VACUUM PLUNGER TIP:
• Highest evacuation level without supplementary sealing of the shot sleeve or plunger rod. Therefore, no maintenance or downtimes.
• Applicable on conventional horizontal cold-chamber die-casting machines (mould sealing recommended)
Applicable on vacuum machines
• Normal shot sleeve applicable (no special lead-in chamfers necessary), therefore, cylindrical pressrest for simple removal of the part
• Minimum system requirements:
Sealed mould
Evacuation via mould / shot sleeve
Simple installation

Constructive advantages:
• Due to the patented sealing system (automatic adaptation of the sealing rings) highest evacuation levels can be reached during the whole casting period
• Longer lifetime due to the tribological favourable material matching shot sleeve/plunger tip, sealing surfaces are protected from wear by a special pressure ring
• Economic efficiency due to replaceable wear parts

Services:
• Service center for plunger tip reworking and assembling
• Advisory service, process development and construction
• Comprehensive stock

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PLUNGER ROD SYSTEM
with quick-action coupling system

Optional with position adjustment
Quick-action coupling system
Support for plunger rods
PLUNGER ROD SYSTEM
with quick-action coupling system

Manufacture of plunger rods for all machine types.
Change from plunger rods with adapter to CARO®TEC and CARO®VAK system.

Plunger rods with integrated lubrication for:
• Better casting quality
• Minimum lubricant consumption
• No smoke emission

Service:
• Service center for reconstruction and repair
• Advisory service, process development and construction
• System supplier in die-casting technology: e.g. die-cast plunger tips, vacuum-casting systems, shot sleeves and magnesium-casting systems etc.

Guide elements on plunger tip:
• For easy change of plunger tip and easy adjustment
• For safety when overriding the chamber
• Discharge of plunger tips and couplings

Hight-adjustable quick couplings for all machine types
• Central pressure absorption with simultaneous plunger tip adjustment with convex surface

Optionally prepared for atomised lubrication CARO® LUB

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CARO®SLEEVE
Shot Sleeve System

Multiple life time extension of the shot sleeve

Easy assembling and dismantling without mould changing
CARO®SLEEVE
Shot Sleeve System

CARO®SLEEVE has been specially developed for die casting to reduce resetting costs and to extend tool life:

Characteristics:

- Quick-change sleeve at the filling point
- Special heat treatment
- Selection of high-quality materials for different aluminium alloys
- Very short production interruptions due to quick sleeve change at the machine

Optional with indirect cooling:

- Will not crack, especially during machining, as no direct heat drilling is used
- Thermal distortions are eliminated due to structural adjustments
- Simple indirect tempering of the problem areas at the filling point

Service:

- Advisory service, process development and construction
- System provider for die-casting technology: e. g. die-casting plunger tips, plunger rods, quick-coupling systems, vacuum-casting systems for structural casting and magnesium-casting systems etc.
CARO®LUB
Lubrication by plunger rod spraying device

Developed for structural casting
Improved casting quality
Significantly lower emissions
CARO®LUB
Lubrication by plunger rod spraying device

Advantages:
• Minimal lubricant consumption
• Improved casting quality
• Selectable lubrication interval and time (programmable logic controller (PLC) with machine interface)
• Selective and effectively dosed lubrication (lubricant is evenly distributed by atomised spray)
• Considerably less pollution of machinery and environment

Service:
• Plunger rod production for all machine types
• Advisory service, process development and construction
• System provider in die-casting technology: e.g. die-cast plunger tips, plunger rods, quick-coupling systems, service center for vacuum-casting systems, magnesium-casting and shot-sleeve systems etc.
CARO®LUB III - Sector Control

Lubrication by plunger rod spraying device

Developed for structural casting

Exactly adjustable metered volume

Individually adjustable lubricant distribution
CARO LUB III - Sector Control
Lubrication by plunger rod spraying device

Advantages:

• Exactly adjustable metered volume (in steps of 0.5 ml)
• Dosed lubricant quantity can be read on digital display
• Enormous process reliability and repeatability
• Self-adjustable system
• Variable distribution of lubricant quantity into up to 5 shot-sleeve sectors
• Lubricants of different manufacturers may be used
• Minimal lubricant consumption
• Improved casting quality
• Selective and effectively dosed lubrication (lubricant is specifically distributed by atomised spray)
• Considerably less pollution of machinery and environment

Service:

• Plunger rod production for all machine types
• Advisory service, process development and construction
• System provider in die-casting technology: e.g. die-casting plunger tips, vacuum-casting systems, shot-sleeves and magnesium-casting systems etc.