
OUT OF THE SWAMP –
REPLACES COOLING LUBRICANTS AND
MINIMUM QUANTITY LUBRICATION
[Mediumverteiler]
Frästechnik der Zukunft
THE MEDIUM DISTRIBUTOR
- NOZZLE BODIES - TOOL HOLDERS -
- ACCESSORIES
MHT...
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COOLING - LUBRICATING - CHIP REMOVAL

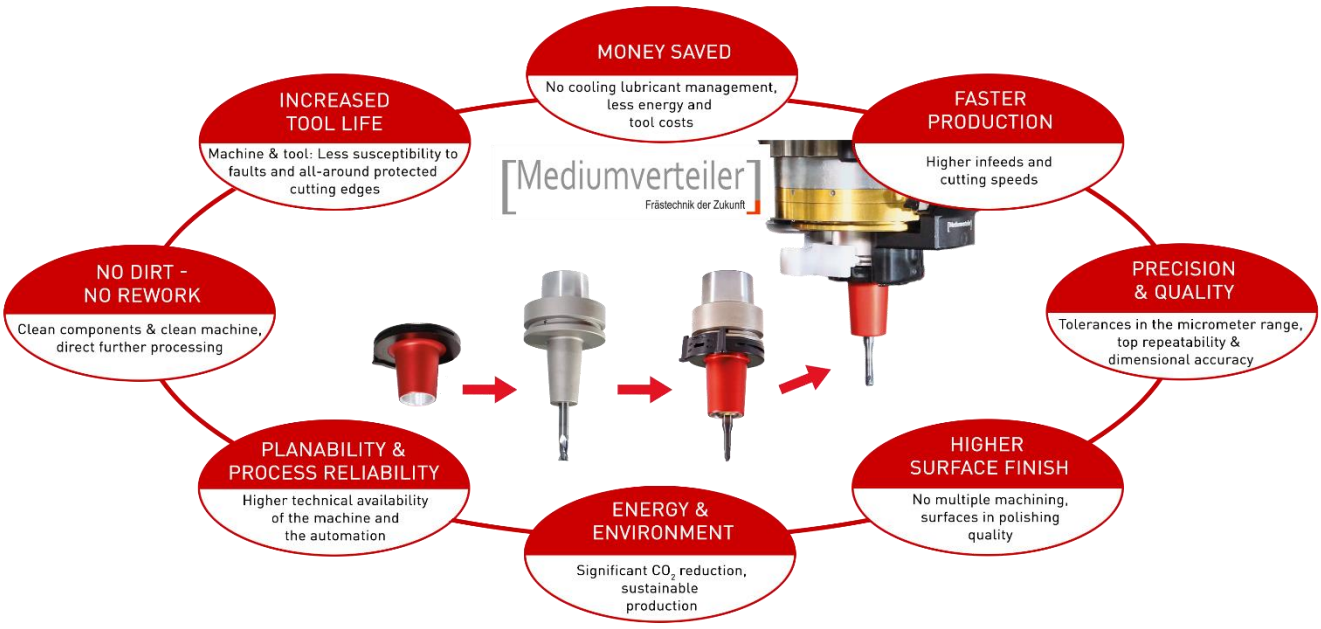
Technically and physically unique, MHT GmbH from Schramberg offers a completely new milling technology for cooling, lubrication and chip removal with the Medium Distributor System. The Medium Distributor completely replaces cooling lubricants, minimum quantity lubrication as well as Trough Spindle Coolant solutions and ideally serves the three main components of the machining process during milling and drilling.

Cooling: With 6 bar air pressure, an air jacket is created along the entire tool, which keeps temperatures constantly low, massively reduces the friction pressure on all cutting edges, thus protecting the tool and surfaces and increasing precision.

Lubrication: By adding lubricating particles depending on the material to the compressed air, permanent and uniform lubrication of all cutting edges in aerosol quality takes place. Workpiece, tool, machine interior and chips always remain clean and dry. Reworking and cleaning are largely eliminated.

Chips: One hundred percent permanent chip removal is also ensured by the compressed air with its high flow velocity, through which all chips are always reliably and safely blown away even in deep cavities, grooves and pockets (no multiple chip removal).

The air-cooling-lubrication system Medium Distributor can be used as a standard installation on new machines and can also be retrofitted to existing machinery. Please feel free to contact us directly to see if your machine is ready for the new type of milling.



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ECOLOGICALLY AND ECONOMICALLY TRENDY

Machining has been around since 1900, and cooling lubricants have been used for this purpose since 1910. To date, more than 90 percent of metal-cutting manufacturing processes are carried out with cooling lubricants. In Germany alone, this generates around 1000000 metric tons of hazardous waste every year. In addition, around 3000000 tons of CO2 are generated by the use of cooling lubricants/MQLs.

CNC machining becomes more sustainable, more efficient and with better milling results overall with the Medium Distributor air cooling lubrication system. This not only brings more efficiency, cleanliness and process reliability to (unmanned) production: It also saves up to 80 percent of CO2 consumption. This significantly reduces energy costs and at the same time measurably improves the ambient air at the machines. On clean machines that produce clean components.

Due to its outstanding resource-saving properties (elimination of high-pressure cooling lubricant systems, longer tool life, greatly reduced energy consumption, and faster production with larger quantities and shorter machining times), the installation of Medium Distributor is subsidized by up to 40 percent in accordance with the requirements of the German federal subsidy for energy efficiency in industry (Module 4).

THE FOCUS IS ON THE CUTTING EDGE

- **reduction of friction pressure** keeps machining temperatures low
- sharp cutting edges, higher cutting performance,
- less energy consumption
- optimum conditions for all tool cutting edges
- extended tool life, reduced set-up times
- cutting of all materials
- **efficient, cost-effective, sustainable**

MEDIUM DISTRIBUTOR

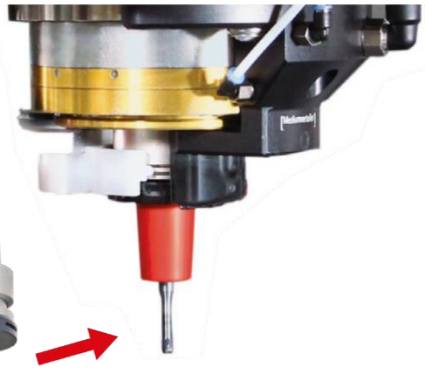
Sustainable and eligible production

with many advantages over competitors.

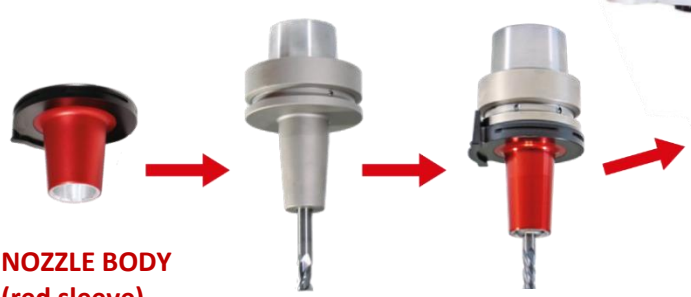
www.mht-gmbh.de

MILLING: NOZZLE BODY

REPLACES COOLING LUBRICANTS AND MINIMUM QUANTITY LUBRICATION



The Medium Distributor system works technically and physically completely different from conventional methods of milling. With permanent cooling and lubrication on all cutting edges and rigorous chip evacuation, the Medium Distributor permanently creates an optimal working environment for the tool.



NOZZLE BODY (red sleeve) **TOOL HOLDER** **COMPLETE UNIT**

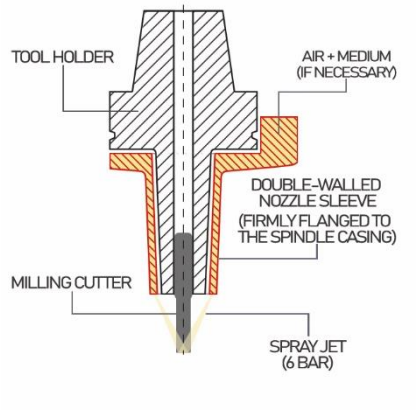
The sleeve is fixed

Compressed air at up to 6 bar is blown in via a permanently installed nozzle body (the so-called red sleeve). The nozzle body itself does not rotate. This **reduces the heat generated at all milling cutters by half**. At the same time, **100 percent of all chips are reliably blown away** from the machining area.

Friction pressure is minimized

The compressed air creates an air jacket along the cutting edges: Here, both the Coandă effect (flowing along the cutting edges) and the Venturi effect (the nozzle effect) have a physical effect. With their modes of action, the frictional pressure on all cutting edges is greatly reduced. In this way, cooling is permanent, temperatures are kept constantly low and tools are protected for a long tool life.

The lubricating medium arrives



Depending on the material, aerosol-quality medium can be added to the compressed air to further improve the cutting performance. Since the nozzle body does not rotate, there is no segregation, so **every lubricant particle arrives and all cutting edges are targeted.** Despite lubrication, the components come out of the machine dry - ready for immediate further processing.

NOZZLE BODY VARIANTS

The nozzle body consists of the red, double-walled sleeves and a blow ring with holes D 0.5mm at an angle of 35°, which is aligned with the mold cutting edges. The number of nozzle holes depends on the size of the nozzle body. The pure blowing air or blowing air enriched with medium is passed over it. Various grooves and wings for holder and fixing ensure a secure unit consisting of mold holder and nozzle body. **The nozzle body changes in and out of the tool changer fully automatically with the tool holder.**

STANDARD NOZZLE BODY

The STANDARD NOZZLE BODIES are a perfect match for MHT's MERZ tool holders. They can be produced in larger quantities and are therefore inexpensive and quickly available.

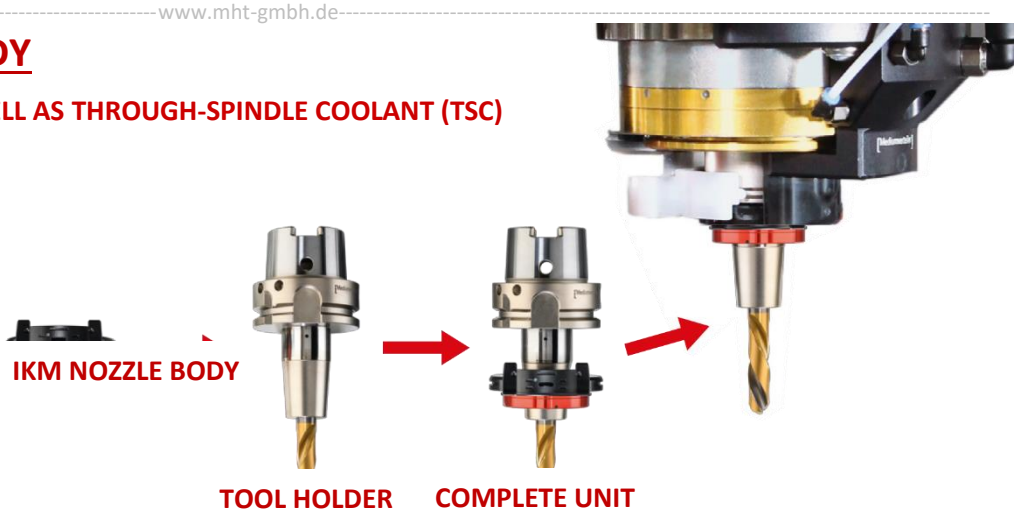
INDIVIDUAL NOZZLE BODIES

We are happy to manufacture INDIVIDUAL NOZZLE BODIES for you if you would like to continue using your own TOOLS. These correspond in design and function to the STANDARD NOZZLE BODIES, but are individually measured and manufactured. Thus, you will receive your individual nozzle body from us for each existing tool holder - exactly according to your requirements.

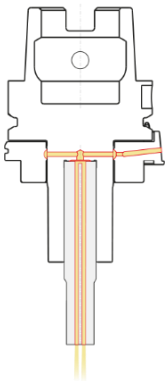
DRILLING: IKM NOZZLE BODY

REPLACES COOLING LUBRICANTS AS WELL AS THROUGH-SPINDLE COOLANT (TSC)

With the IKM Medium Distributor (**I**nternal **C**ooling **M**edium Distributor), the compressed air for cooling, lubrication and chip removal is guided through an IK tool to the machining point. In this process, the air inflow takes place via the medium distributor interface. If lubrication is required, the mixing of air and medium in aerosol quality takes place just before the outlet in the nozzle body and not via the spindle. The internal rotary union through the spindle is omitted without replacement.



There is no internal rotary union through the spindle.



The way is clear

The compressed air ensures energy-saving chip removal from all drill holes.

No jam

Even with increasing drilling depth, all chips are reliably blown out. There is no chip jam.

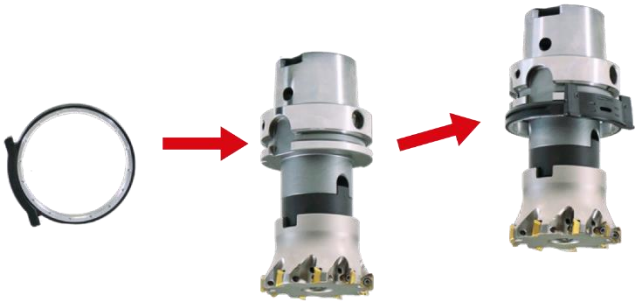
Spot landing

If the material requires lubricant, this is added to the air jet via the Medium Distributor interface.

This takes place in aerosol quality in such small quantities that the machine interior and the workpiece remain dry and clean.

UNI NOZZLE BODY

In addition to the **STANDARD NOZZLE BODIES** for MERZ tool holders and the **INDIVIDUAL NOZZLE BODIES** for existing tool holders, we have a selection of **UNI NOZZLE BODIES** available for special work.



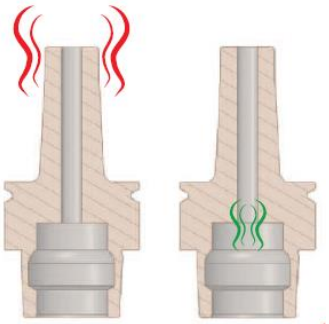
Shown in the picture as a "black ring", The UNI NOZZLE BODY is adapted to the respective special tool. They are particularly suitable for simpler machining operations (from HSK32 to HSK63) or for tools which, due to their nature, cannot be equipped with the double-walled nozzle bodies of the Medium Distributor.

The operating principle of the UNI-DÜSENKÖRPER is corresponding: Compressed air (if necessary enriched with medium) is blown through a ring of blowing nozzles exactly onto the cutting edges and the workpiece at a high air flow speed. In this way, effective cooling and lubrication is achieved at the same time, so that cutter heads or indexable insert milling cutters can also benefit from the numerous advantages of the air-cooling-lubrication system Medium Distributor.

For special tools we offer special nozzle bodies on request.

SHRINK FIT HOLDINGS AND SWING-STOP TECHNOLOGY

The nozzle body is mounted on a conventional tool holder. If desired, existing tool holders can continue to be used (INDIVIDUAL NOZZLE BODIES).



conventional tool holder **SwingStop tool holder**

For an optimal fit of the STANDARD NOZZLE BODIES, the high-precision MERZ tool holders which are already prepared for the special SwingStop technology, are used.

SwingStop is a patented technology that reduces vibrations on the milling or drilling tool. This additionally protects the surfaces and increases precision. Another plus: SwingStop-damped tool holders significantly increase the service life of the tools.

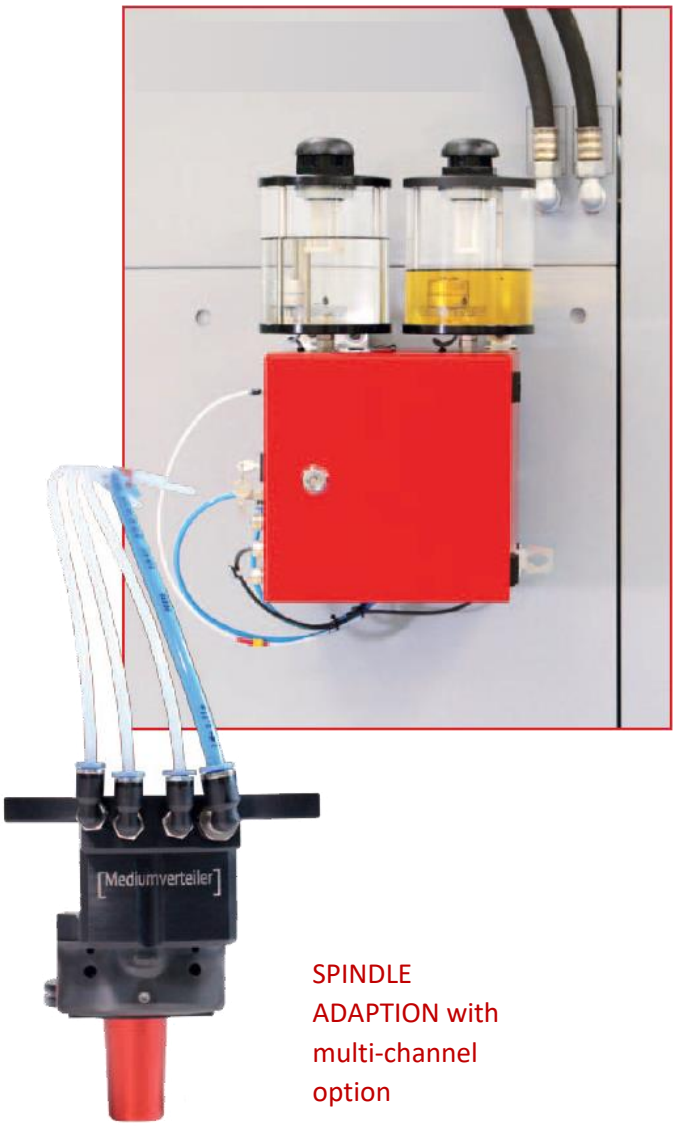
SPINDLE ADAPTION

The SPINDLE ADAPTION is the central component of the Medium Distributor for supplying the nozzle bodies. This is where the air and lubricant are fed in. The lubricant is added to the air in aerosol quality just before it is transferred to the nozzle body. With the multi-channel option, different quantities of lubricant can be added to the air under machine control.

Since the nozzle body is firmly locked in the spindle adaption during every machine tool change and does not rotate, there is also no segregation.

Air or air incl. lubricant are permanently blown onto all tool cutting edges and can thus develop an optimum result: Every lubricant particle arrives, all tool cutting edges are cooled and lubricated, the frictional pressure is minimized and the temperatures remain low throughout.

The rule is: as much medium as necessary, as little as possible. In standard mixing mode, consumption is between 5 and 20 ml/h.



SPINDLE ADAPTION with multi-channel option

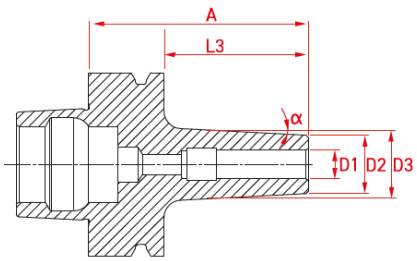
MICROSPRAY PUMP

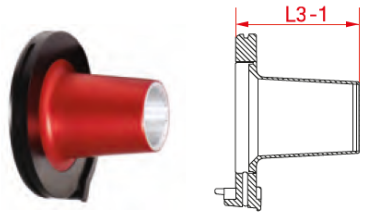
A microspray pump ensures that the medium is added as required. It is responsible for metering the lubricant and transporting it via the spindle adapter to the nozzle body.

The microspray pump is available in different versions: from one to three containers for different lubricants, optionally with single pumps (for one quantity per container) or with double pumps (for up to three quantities per container).

Other pump variants are available on request.

ARTICLES: TOOL HOLDERS AND NOZZLE BODIES





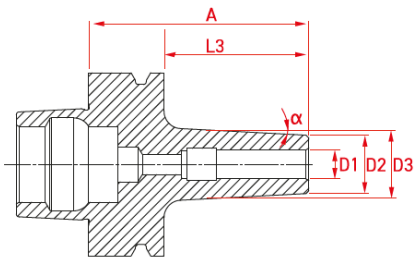
HSK-25 MERZ-Shrink fit according to DIN69893 form E

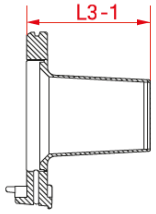
							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	3	9	14,1	4,5°	50	40	E25 S.01.40 03	-SST	40	2001071
	4	10,5	13,9	3°	50	40	E25 S.01.40 04	-SST	40	2001072
	6	12	15,4	3°	50	40	E25 S.40 06	-SST	40	2001073
	8	16	19,4	3°	50	40	E25 S.40 08	-SST	40	2001074

HSK-32 MERZ-Shrink fit according to DIN69893 form E

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	6	12	14,3	3°	50	30	E32 S.30 06	-SST	30	2000645
	8	16	18,3	3°	50	30	E32 S.30 08	-SST	30	2001075
	10	20	22,3	3°	50	30	E32 S.30 10	-SST	30	2001076
	3	9	14,1	4,5°	60	40	E32 S.01.40 03	-SST	40	2000758
	4	10,5	13,9	3°	60	40	E32 S.01.40 04	-SST	40	2000387
	6	12	15,4	3°	60	40	E32 S.40 06	-SST	40	2000386
	8	16	19,4	3°	60	40	E32 S.40 08	-SST	40	2000726
	10	20	23,4	3°	60	40	E32 S.40 10	-SST	40	2001077
Slim, long version (S), suitable for HSC and finishing operations	3	9	17,8	4,5°	90	70	E32 S.01.70 03	-SST	70	2001080
	4	10,5	16,4	3°	90	70	E32 S.01.70 04	-SST	70	2001080
	6	12	17,9	3°	90	70	E32 S.70 06	-SST	70	2001081
	8	16	22,5	3°	90	70	E32 S.70 08	-SST	70	2001082
	10	20	26,5	3°	90	70	E32 S.70 10	-SST	70	2001083
Heavy, design (SB), suitable for hard and rough machining	3	12	14,3	3°	50	30	E32 SB.30 03	-SST	30	2000645
	4	12	14,3	3°	50	30	E32 SB.30 04	-SST	30	2000645
	3	12	15,4	3°	60	40	E32 SB.40 03	-SST	40	2000386
	4	12	15,4	3°	60	40	E32 SB.40 04	-SST	40	2000386
	3	12	18,5	3°	90	70	E32 SB.70 03	-SST	70	2001081
	4	12	18,5	3°	90	70	E32 SB.70 04	-SST	70	2001081

TOOL HOLDERS AND NOZZLE BODIES

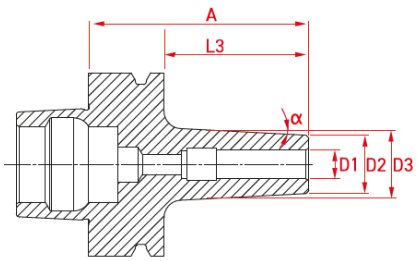


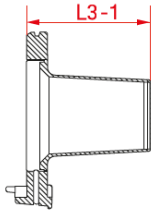


HSK-40 MERZ-Shrink fit according to DIN69893 form E

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	6	12	15,1	3°	50	30	E40 S.30 06	-SST	30	2000122
	8	16	19,1	3°	50	30	E40 S.30 08	-SST	30	2000206
	10	20	23,1	3°	50	30	E40 S.30 10	-SST	30	2000205
	3	9	12,4	4,5°	60	40	E40 S.01.40 03	-SST	40	2000123
	4	10,5	13,9	3°	60	40	E40 S.01.40 04	-SST	40	2000124
	6	12	15,4	3°	60	40	E40 S.40 06	-SST	40	2000125
	8	16	19,4	3°	60	40	E40 S.40 08	-SST	40	2000128
	10	20	23,4	3°	60	40	E40 S.40 10	-SST	40	2000126
	12	24	27,4	3°	60	40	E40 S.40 12	-SST	40	2000162
Slim, long version (S), suitable for HSC and finishing operations	3	9	18,8	4,5°	90	70	E40 S.01.70 03	-SST	64	2000806
	4	10,5	17,1	3°	90	70	E40 S.01.70 04	-SST	64	2000129
	6	12	18,6	3°	90	70	E40 S.70 06	-SST	64	2000130
	8	16	22,5	3°	90	70	E40 S.70 08	-SST	70	2000908
	10	20	26,6	3°	90	70	E40 S.70 10	-SST	64	2001002
	12	24	30,5	3°	90	70	E40 S.70 12	-SST	64	2001089
	6	12	21,7	3°	120	100	E40 S.100 06	-SST	94	2001085
	8	16	25,7	3°	120	100	E40 S.100 08	-SST	94	2001086
	10	20	29,7	3°	120	100	E40 S.100 10	-SST	94	2001087
	12	24	32	2,5°	120	100	E40 S.100 12	-SST	94	2001088
Heavy, short version (SB), suitable for hard and rough machining	3	12	14,3	3°	50	30	E40 SB.30 03	-SST	30	2000122
	4	12	14,3	3°	50	30	E40 SB.30 04	-SST	30	2000122
	3	12	17,1	4,5°	60	40	E40 SB.40 03	-SST	40	2000125
	4	12	17,1	4,5°	60	40	E40 SB.40 04	-SST	40	2000125
	6	21	24,4	3°	60	40	E40 SB.40 06	-SST	40	2000191
	8	21	24,4	3°	60	40	E40 SB.40 08	-SST	40	2000191
	10	24	27,4	3°	60	40	E40 SB.40 10	-SST	40	2000190
	12	24	29,1	4,5°	60	40	E40 SB.40 12	-SST	40	2000190
Heavy, long version (SB), suitable for hard and rough machining	6	21	30,8	4,5°	90	70	E40 SB.70 06	-SST	70	2001169
	8	21	30,8	4,5°	90	70	E40 SB.70 08	-SST	70	2001169
	10	24	33,8	4,5°	90	70	E40 SB.70 10	-SST	70	2001172
	12	24	33,8	4,5°	90	70	E40 SB.70 12	-SST	70	2001172
	6	21	35,5	4,5°	120	100	E40 SB.100 06	-SST	100	2001173
	8	21	35,5	4,5°	120	100	E40 SB.100 08	-SST	100	2001173

TOOL HOLDERS AND NOZZLE BODIES

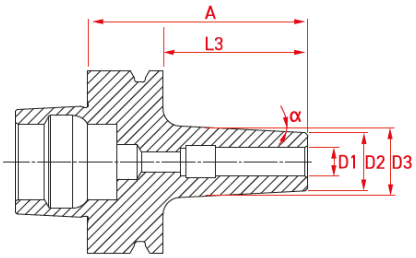


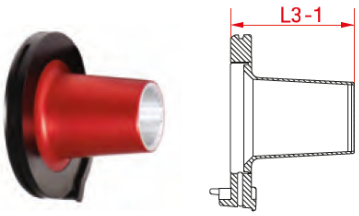


HSK-50 MERZ-Shrink fit according to DIN69893 form E

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	3	9	15,6	4,5°	76	50	E50 S.01.50 03	-SST	50	2001093
	4	10,5	14,9	3°	76	50	E50 S.01.50 04	-SST	50	2001092
	6	12	16,4	3°	76	50	E50 S.50 06	-SST	50	2000167
	8	16	20,4	3°	76	50	E50 S.50 08	-SST	50	2000166
	10	20	24,4	3°	76	50	E50 S.50 10	-SST	50	2000165
	12	24	28,4	3°	76	50	E50 S.50 12	-SST	50	2001090
	16	32	36,4	3°	76	50	E50 S.50 16	-SST	50	2001069
	12	24	29,5	3°	86	60	E50 S.60 12	-SST	60	2000171
	16	32	37,5	3°	86	60	E50 S.60 16	-SST	60	2000177
	20	40	40	0°	86	60	E50 S.60 20	-SST	60	2001097
	3	9	19,6	4,5°	101	75	E50 S.01.75 03	-SST	75	2001110
	4	10,5	17,5	3°	101	75	E50 S.01.75 04	-SST	75	2001112
	6	12	19	3°	101	75	E50 S.75 06	-SST	75	2001175
	8	16	23	3°	101	75	E50 S.75 08	-SST	75	2001176
	10	20	27	3°	101	75	E50 S.75 10	-SST	75	2001177
	12	24	31	3°	101	75	E50 S.75 12	-SST	75	2001178
	16	32	39	3°	101	75	E50 S.75 16	-SST	75	2001179
Slim, long version (S), suitable for HSC and finishing operations	4	10,5	20,2	3°	126	100	E50 S.01.100 04	-SST	100	2000176
	6	12	21,7	3°	126	100	E50 S.100 06	-SST	100	2000175
	8	16	25,7	3°	126	100	E50 S.100 08	-SST	100	2000174
	10	20	29,7	3°	126	100	E50 S.100 10	-SST	100	2000173
	12	24	33,7	3°	126	100	E50 S.100 12	-SST	100	2000172
	16	32	41,7	3°	126	100	E50 S.100 16	-SST	100	2000171
	20	40	49,7	3°	126	100	E50 S.100 20	-SST	100	2000170
	6	12	26,9	3°	176	150	E50 S.150 06	-SST	150	2001422
	8	16	30,9	3°	176	150	E50 S.150 08	-SST	150	2001181
Heavy, short version (SB), suitable for hard and rough machining	3	14	20,7	4.5°	76	50	E50 SB.50 03	-SST	50	2001419
	4	16	22,6	4.5°	76	50	E50 SB.50 04	-SST	50	2000168
	6	21	27,6	4,5°	76	50	E50 SB.50 06	-SST	50	2000488
	8	21	27,6	4,5°	76	50	E50 SB.50 08	-SST	50	2000488
	10	24	30,6	4,5°	76	50	E50 SB.50 10	-SST	50	2000868
	12	24	30,6	4,5°	76	50	E50 SB.50 12	-SST	50	2000868
	16	32	38,7	4,5°	76	50	E50 SB.50 16	-SST	50	2001095
	6	21	31,6	4,5°	101	75	E50 SB.75 06	-SST	75	2001415
	8	16	31,6	3°	101	75	E50 SB.75 08	-SST		2001415
	8	21	31,6	4,5°	101	75	E50 SB.75 08	-SST	75	2001415
	10	24	34,6	4,5°	101	75	E50 SB.75 10	-SST	75	2001416

TOOL HOLDERS AND NOZZLE BODIES





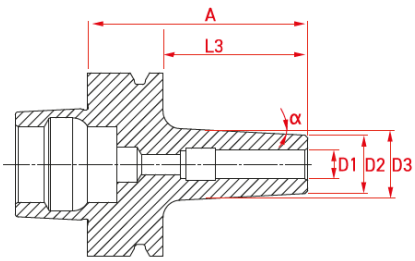
HSK-50 MERZ-Shrink fit according to DIN69893 form E

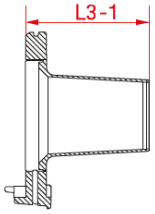
							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Heavy, long version (SB), suitable for hard and rough machining	3	12	21,7	3°	126	100	E50 SB.100 03	-SST	100	2000175
	4	12	21,7	3°	126	100	E50 SB.100 04	-SST	100	2000175
	12	24	38,6	4,5	126	100	E50 SB.100 12	-SST	100	2001418
	16	32	41,7	3°	126	100	E50 SB.100 16	-SST	100	2000934
	3	12	26,9	3°	176	150	E50 SB.150 03	-SST	150	2001182
	4	12	26,9	3°	176	150	E50 SB.150 04	-SST	150	2001183

HSK-63 MERZ-Shrink fit according to DIN69893 form A

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	3	9	15,6	4,5°	76	50	A63 S.01.50 03	-SST	50	2000376
	4	10,5	14,9	3°	76	50	A63 S.01.50 04	-SST	50	2000377
	6	12	16,4	3°	76	50	A63 S.50 06	-SST	50	2000378
	8	16	20,4	3°	76	50	A63 S.50 08	-SST	50	2000379
	10	20	24,4	3°	76	50	A63 S.50 10	-SST	50	2000380
	12	24	28,4	3°	76	50	A63 S.50 12	-SST	50	2000728
	16	32	36,4	3°	76	50	A63 S.50 16	-SST	50	2000814
	12	24	29,5	3°	86	60	A63 S.60 12	-SST	60	2000382
	16	32	37,5	3°	86	60	A63 S.60 16	-SST	60	2000383
	20	40	40	0°	86	60	A63 S.60 20	-SST	60	2000971
	25	46	46	0°	86	60	A63 S.60 25	-SST	60	2001107
	3	9	19,6	4,5°	101	75	A63 S.01.75 03	-SST	75	2000197
	4	10,5	17,5	3°	101	75	A63 S.01.75 04	-SST	75	2000197
	6	12	19	3°	101	75	A63 S.75 06	-SST	75	2000198
	8	16	23	3°	101	75	A63 S.75 08	-SST	75	2000200
	10	20	27	3°	101	75	A63 S.75 10	-SST	75	2000199
	12	24	31	3°	101	75	A63 S.75 12	-SST	75	2000201
	16	32	39	3°	101	75	A63 S.75 16	-SST	75	2000202

TOOL HOLDERS AND NOZZLE BODIES

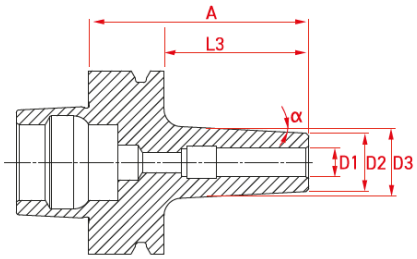


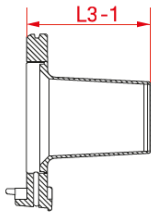


HSK-63 MERZ-Shrink fit according to DIN69893 form A

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, long version (S), suitable for HSC and finishing operations	3	9	23,5	4,5°	126	100	A63 S.01.100 03	-SST	100	2001111
	4	10,5	20,2	3°	126	100	A63 S.01.100 04	-SST	100	2000744
	6	12	21,7	3°	126	100	A63 S.100 06	-SST	100	2000976
	8	16	25,7	3°	126	100	A63 S.100 08	-SST	100	2001109
	10	20	29,7	3°	126	100	A63 S.100 10	-SST	100	2001098
	12	24	33,7	3°	126	100	A63 S.100 12	-SST	100	2001101
	16	32	41,7	3°	126	100	A63 S.100 16	-SST	100	2001104
	20	40	49,7	3°	126	100	A63 S.100 20	-SST	100	2001105
	16	32	46,9	3°	176	150	A63 S.150 16	-SST	150	2001184
	10	20	34,9	3°	226	200	A63 S.200 10	-SST	200	2001185
Heavy, short version (SB), suitable for hard and rough machining	3	12	16,4	3°	76	50	A63 SB.50 03	-SST	50	2000378
	4	12	16,4	3°	76	50	A63 SB.50 04	-SST	50	2000378
	6	21	27,6	4,5°	76	50	A63 SB.50 06	-SST	50	2000489
	8	21	27,6	4,5°	76	50	A63 SB.50 08	-SST	50	2000489
	10	24	30,6	4,5°	76	50	A63 SB.50 10	-SST	50	2000187
	12	24	30,6	4,5°	76	50	A63 SB.50 12	-SST	50	2000187
	3	12	19	3°	101	75	A63 SB.75 03	-SST	75	2000198
	4	12	19	3°	101	75	A63 SB.75 04	-SST	75	2000198
	6	21	31,6	4,5°	101	75	A63 SB.75 06	-SST	75	2001102
	8	21	31,6	4,5°	101	75	A63 SB.75 08	-SST	75	2001102
	10	24	34,6	4,5°	101	75	A63 SB.75 10	-SST	75	2001099
	12	24	34,6	4,5°	101	75	A63 SB.75 12	-SST	75	2001099
Heavy, long version (SB), suitable for hard and rough machining	3	12	21,7	3°	126	100	A63 SB.100 03	-SST	100	2000976
	4	12	21,7	3°	126	100	A63 SB.100 04	-SST	100	2000976
	6	21	35,5	4,5°	126	100	A63 SB.100 06	-SST	100	2000207
	8	21	35,5	4,5°	126	100	A63 SB.100 08	-SST	100	2000207
	10	24	38,5	4,5°	126	100	A63 SB.100 10	-SST	100	2001103
	12	24	38,5	4,5°	126	100	A63 SB.100 12	-SST	100	2001103

TOOL HOLDERS AND NOZZLE BODIES

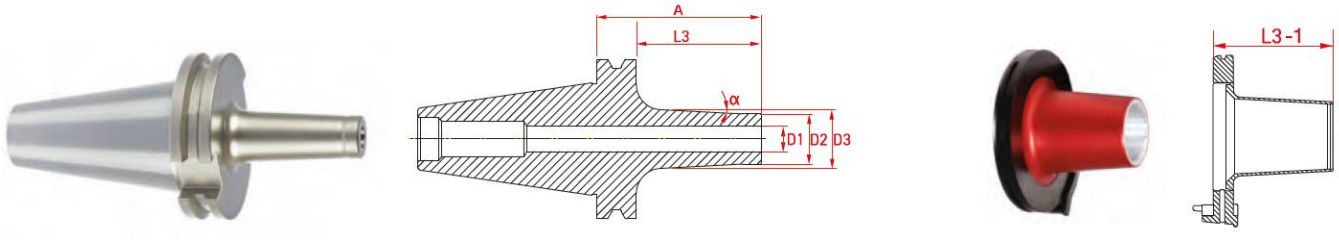




HSK-63 MERZ-Shrink fit according to DIN69893 form F

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	8	16	20,4	3°	76	50	F63 S.50 08	-SST	50	2000379
	10	20	24,4	3°	76	50	F63 S.50 10	-SST	50	2000380
	12	24	28,4	3°	76	50	F63 S.50 12	-SST	50	2000728
	16	32	36,4	3°	76	50	F63 S.50 16	-SST	50	2000814
	20	40	44,4	3°	76	50	F63 S.50 20	-SST	50	2000727
	25	46	50,4	3°	76	50	F63 S.50 25	-SST	50	2001106
	32	50	50	0°	76	50	F63 S.50 32	-SST	50	2001108
	12	24	29,5	3°	86	60	F63 S.60 12	-SST	60	2000382
	16	32	37,5	3°	86	60	F63 S.60 16	-SST	60	2000383
	3	9	16	3°	101	75	F63 S.75 03	-SST	75	2000197
	4	9	16	3°	101	75	F63 S.75 04	-SST	75	2000197
	5	12	19	3°	101	75	F63 S.75 05	-SST	75	2000198
	6	12	19	3°	101	75	F63 S.75 06	-SST	75	2000198
	8	16	23	3°	101	75	F63 S.75 08	-SST	75	2000200
	10	20	27	3°	101	75	F63 S.75 10	-SST	75	2000199
	12	24	31	3°	101	75	F63 S.75 12	-SST	75	2000201
Slim, long version (S), suitable for HSC and finishing operations	4	9	18,7	3°	126	100	F63 S.100 04	-SST	100	2000744
	6	12	21,7	3°	126	100	F63 S.100 06	-SST	100	2000976
	8	16	25,7	3°	126	100	F63 S.100 08	-SST	100	2001109
	10	20	29,7	3°	126	100	F63 S.100 10	-SST	100	2001100
	12	24	33,7	3°	126	100	F63 S.100 12	-SST	100	2001101
	16	32	41,7	3°	126	100	F63 S.100 16	-SST	100	2001104

TOOL HOLDERS AND NOZZLE BODIES



SK-40 MERZ-Shrink fit according to DIN69871 form AD

							Tool holders			Nozzle body
Designation	**D1**	**D2**	**D3**	**α**	**A**	**L3**	**Item Number**	**SwingStop**	**L3**	**Item Number**
Slim, short version (S), suitable for HSC and finishing operations	3	9	15,6	4,5°	69,1	50	SK40 S.01.50 03	-SST	50	2000377
	4	10,5	14,9	3°	69,1	50	SK40 S.01.50 04	-SST	50	2000377
	6	12	16,4	3°	69,1	50	SK40 S.50 06	-SST	50	2000378
	8	16	20,4	3°	69,1	50	SK40 S.50 08	-SST	50	2000379
	10	20	24,4	3°	69,1	50	SK40 S.50 10	-SST	50	2000380
	12	24	28,4	3°	69,1	50	SK40 S.50 12	-SST	50	2000728
	16	32	36,4	3°	69,1	50	SK40 S.50 16	-SST	50	2000814
	20	40	44,4	3°	69,1	50	SK40 S.50 20	-SST	50	2000727
	25	46	46	0°	79,1	60	SK40 S.60 25	-SST	60	2001107
	3	9	19,6	4,5°	94,1	75	SK40 S.01.75 03	-SST	75	2000197
	4	10,5	17,5	3°	94,1	75	SK40 S.01.75 04	-SST	75	2000197
	6	12	19	3°	94,1	75	SK40 S.75 06	-SST	75	2000198
	8	16	23	3°	94,1	75	SK40 S.75 08	-SST	75	2000200
	10	20	27	3°	94,1	75	SK40 S.75 10	-SST	75	2000199
	12	24	31	3°	94,1	75	SK40 S.75 12	-SST	75	2000201
	16	32	39	3°	94,1	75	SK40 S.75 16	-SST	75	2000202
Slim, long version (S), suitable for HSC and finishing operations	3	9	23,5	4,5°	119,1	100	SK40 S.01.100 03	-SST	100	2001111
	4	10,5	20,2	3°	119,1	100	SK40 S.01.100 04	-SST	100	2000744
	6	12	21,7	3°	119,1	100	SK40 S.100 06	-SST	100	2000976
	8	16	25,7	3°	119,1	100	SK40 S.100 08	-SST	100	2001109
	10	20	29,7	3°	119,1	100	SK40 S.100 10	-SST	100	2001100
	12	24	33,7	3°	119,1	100	SK40 S.100 12	-SST	100	2001101
	16	32	41,7	3°	119,1	100	SK40 S.100 16	-SST	100	2001104
	20	40	49,7	3°	119,1	100	SK40 S.100 20	-SST	100	2001186
	16	32	46,9	3°	169,1	150	SK40 S.150 16	-SST	150	2001187
	10	20	34,9	3°	219,1	200	SK40 S.200 10	-SST	200	2001188
Heavy, short version (SB), suitable for hard and rough machining	3	12	16,4	3°	69,1	50	SK40 SB.50 03	-SST	50	2000378
	4	12	16,4	3°	69,1	50	SK40 SB.50 04	-SST	50	2000378
	6	21	27,6	4,5°	69,1	50	SK40 SB.50 06	-SST	50	2000489
	8	21	27,6	4,5°	69,1	50	SK40 SB.50 08	-SST	50	2000489
	10	24	30,6	4,5°	69,1	50	SK40 SB.50 10	-SST	50	2000187
	12	24	30,6	4,5°	69,1	50	SK40 SB.50 12	-SST	50	2000187
Heavy, long version (SB), suitable for hard and rough machining	6	21	35,5	4,5°	119,1	100	SK40 SB.100 06	-SST	100	2001189
	8	21	35,5	4,5°	119,1	100	SK40 SB.100 08	-SST	100	2001190
	10	24	38,5	4,5°	119,1	100	SK40 SB.100 10	-SST	100	2001191
	12	24	38,5	4,5°	119,1	100	SK40 SB.100 12	-SST	100	2001192

ACTIVE MACHINE MANUFACTURERS WITH DEMONSTRATION MACHINES

The Soltau-based manufacturer's HSC milling machines are designed with an exceptional depth of development in control and regulation technology and are optimized for the highest possible performance in terms of machining accuracies, surface qualities and dynamics. With Röders as a long-standing technology partner, first-class synergies in precision and efficiency are bundled.

The traditional company offers machines in a wide range: up to 100 Nm spindle torque, a workpiece weight of up to 3000 kg and interference circle diameters of up to 1200 mm. Thus, Röders offers the best possible solution for many applications.

At the same time, the high innovative strength stands for high economic efficiency and also conserves resources. Exactly these high demands can be perfectly realized with the medium distributor on a Röders milling machine: Precision and economy in a process-safe environment and sustainable production.

Highest efficiency with maximum accuracy and trend-setting technology. This is what HSC machines from exeron stand for.

exeron draws on the experience of over 40 years of metalworking. From this, technologies have developed that stand for themselves in the high-speed milling sector.

Whether in compact size and manageable investment costs or a whole idea bigger

with an impressive working range of

800 x 900 x 540 mm and no less than 210 tool positions:

Each HSC from exeron is in a class of its own.

Equipped with the air-cooling-lubrication system Medium Distributor, they create solutions for production that are second to none in terms of efficiency and productivity.

unparalleled in efficiency and productivity.

Reichenbacher Hamuel GmbH has made a name for itself worldwide as a manufacturer of first-class CNC machining centers worldwide.

Machining operations such as milling, drilling and sawing are performed with the Allrounder milling centers according to the principle of a customer-specific "best-fit solution".

The machines configured according to the modular principle are perfectly matched to the requirement profiles of customers and impress with remarkable detail solutions, high operating convenience and impressive results.

On request, customers of the manufacturer from Dörfles-Esbach near Coburg can also enjoy the efficiency- and production-enhancing enrichments offered by the Medium Distributor system for the Allrounders.

More than 50 years of experience goes into the research, development and manufacture of milling machining centers from OEM Hartford.

The globally active company can boast great successes worldwide: Over 50000 installed machines worldwide, a production area of more than 80000 m2, company representations in 65 countries and an annual production of more than 2000 machines testify to the skill of the Taiwanese manufacturer.

The high vertical range of manufacture of more than 95 percent of all machine components within the company guarantees consistently high quality in all production steps that the medium distributor profitably supports.

Zorn Maschinenbau GmbH realizes precision engineering for all industries, including special solutions for assembly tasks of all kinds.

Historically due to the production of miniature incandescent lamps, one focus of the Stockach-based company is the processing of wire. All common manufacturing methods and assembly technologies are available, which are used in a targeted and product-related manner.

Since the development of a miniature machining center for the machining of small parts with meticulous solutions, the use of the medium distributor optimizes the high-precision results.

OPS-INGERSOLL, based in Burbach, Germany, operates worldwide as a leading technology partner for the tool and die industry.

OPS-INGERSOLL is a full-service provider for highly economical machine - concepts in the field of electrical discharge machining and high-speed milling, as stand-alone or in a technology network.

For all machines, holistic automation solutions with standardized as well as linear robot systems.

Using specialist application and process knowledge, unique innovations and holistic solutions of the highest product quality are offered.

New efficiency concepts are used to identify potential savings and optimize production processes at key points. For example, by using the air-cooling-lubrication system Medium Distributor, so that the resulting synergies increase the economic efficiency in the field of HSC milling by up to 50% and more.

Since 2020, SAMAG Machine Tools GmbH has been continuing the almost 150-year tradition in machine construction in Saalfeld in Thuringia and builds machine tools with high technological solution competence.

As an international machine tool manufacturer of highly productive CNC machining centers, the automotive industry, tool and mold making, and mechanical engineering benefit in particular from smooth automation, stable deep drilling technology of the highest standard, and special machines for special and, above all, more efficient production lines. As an efficiency-increasing add-on module, the Medium Distributor with its cleanliness brings even more safety and technical availability to milling operations.

WITH STRONG PARTNERS TO BETTER RESULTS

SolidCAM GmbH is our consistent technology partner with whom we have done and do many customer trials, webinars, demonstrations and on-site presentations together. These take place on a 5-axis machining center from Hermle (C30) in the technology center at the headquarters in Schramberg.

SolidCAM itself makes the CAM software, which runs directly in SOLIDWORKS and Autodesk Inventor and has full toolpath associativity. With its iMachining technology, SolidCAM harmonizes excellently with the Medium Distributor, so that in the effective interaction of programming and practice, all milling and turning functions with the Medium Distributor result in shortened production times, extended tool life and increased performance parameters.

Process reliability and increased productivity are also the key concepts guiding CNC test machining at the Technology Center at the headquarters in Schramberg.

Here, constant process optimization is achieved using a wide range of materials and tools. Interested parties and customers can convince themselves of this in one of the numerous webinars and live machining sessions that take place, both in person on site and online.

With the best software solutions to the best possible result; this is ensured by our technology partner Solidpro Informationssysteme GmbH, headquartered in Langenau, Baden-Württemberg.

As a subsidiary of the globally operating IT system house Bechtle AG and as official reseller of the CAD software solidworks, which is used millions of times, solidpro offers the optimal framework conditions for an efficient conversion of CAD data into quality-assuring milling processes.

Our specialist for the periphery of machine tools is Liqui Filter GmbH from Engen. Their extraction systems for oil smoke, emulsion and oil mist filter even the last remaining impurities from the ambient air of the machine systems, which is already massively improved by dry processing with the Medium Distributor.

This even produces clean air and thus a quality of the workplace that is second to none. This reduces downtimes, increases satisfaction and, with it and with it productivity.

Gerd Ringelmann, Production Manager at ZF Friedrichshafen in Schweinsfurt:

"We were able to halve tool costs with the Medium Distributor when cutting very hard material with an HRC of 63, and at the same time work twice as fast. Another advantage was the rapid payback on our investment in under a year."

Werner Veser, Managing Director of VEMA Werkzeug- und Formenbau GmbH from Krauchenwies:

"We focus on sustainability and precision. With the Medium Distributor, we have greatly reduced our consumption: Energy and CO2. In addition, we no longer produce hazardous waste and all the effort of procuring and disposing of coolant is gone. As an aside, the cleanliness and lack of moisture in the machines have allowed us to eliminate the main causes of production downtime."

Jochen Dorlöchter, managing partner of Walther Wolf GmbH and user from the very beginning :

"We save 70,000 euros in tool costs alone every year. Because, compared to the years with flood lubricant production, we achieve very long tool lives. At the same time, the overall quality in terms of precision, surfaces, dimensional and repeat accuracy has improved across the board."

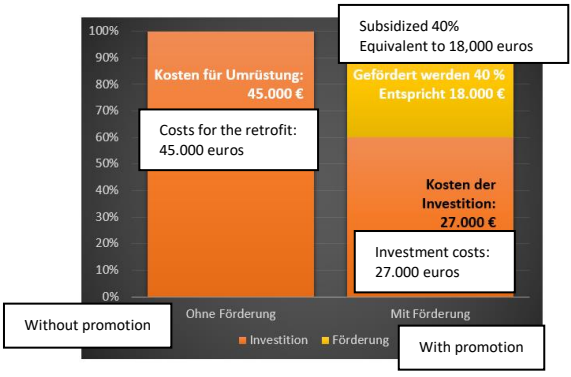
Due to its excellent resource-saving properties, the installation of the Medium Distributor is subsidized in accordance with the requirements of the federal subsidy for energy efficiency in industry (Module 4).

Example of promotion achieved when investing in a new machine:

Energy consumption standard machine:	**235 MWh**
Energy consumption new machine with Medium Distributor :	43 MWh
Savings due to Medium Distributor:	**192 MWh**
CO2 Savings:	140 to Co2 (0,732 to/MWh)
Investment costs:	**410.000 €**
Funding amount Medium Distributor:	**126.000 € (31 %)** (900€/to CO2, max. 40%)

Example of promotion achieved when retrofitting an existing machine:

Energy consumption before retrofit:	93 MWh
Energy consumption after retrofit:	60 MWh
Savings due to Medium Distributor:	**33 MWh**
CO2 Savings:	24 to Co2 (0,732 to/MWh)
Cost retrofit:	**45.000 €**
Funding amount Medium Distributor:	**18.000 € (40 %)** (900€/to CO2, max. 40%)



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Herbert Merz Thomas Haag

We will advise you according to your requirements and send you information material including suitable milling examples.

Gladly also by e-mail: info@mht-gmbh.de