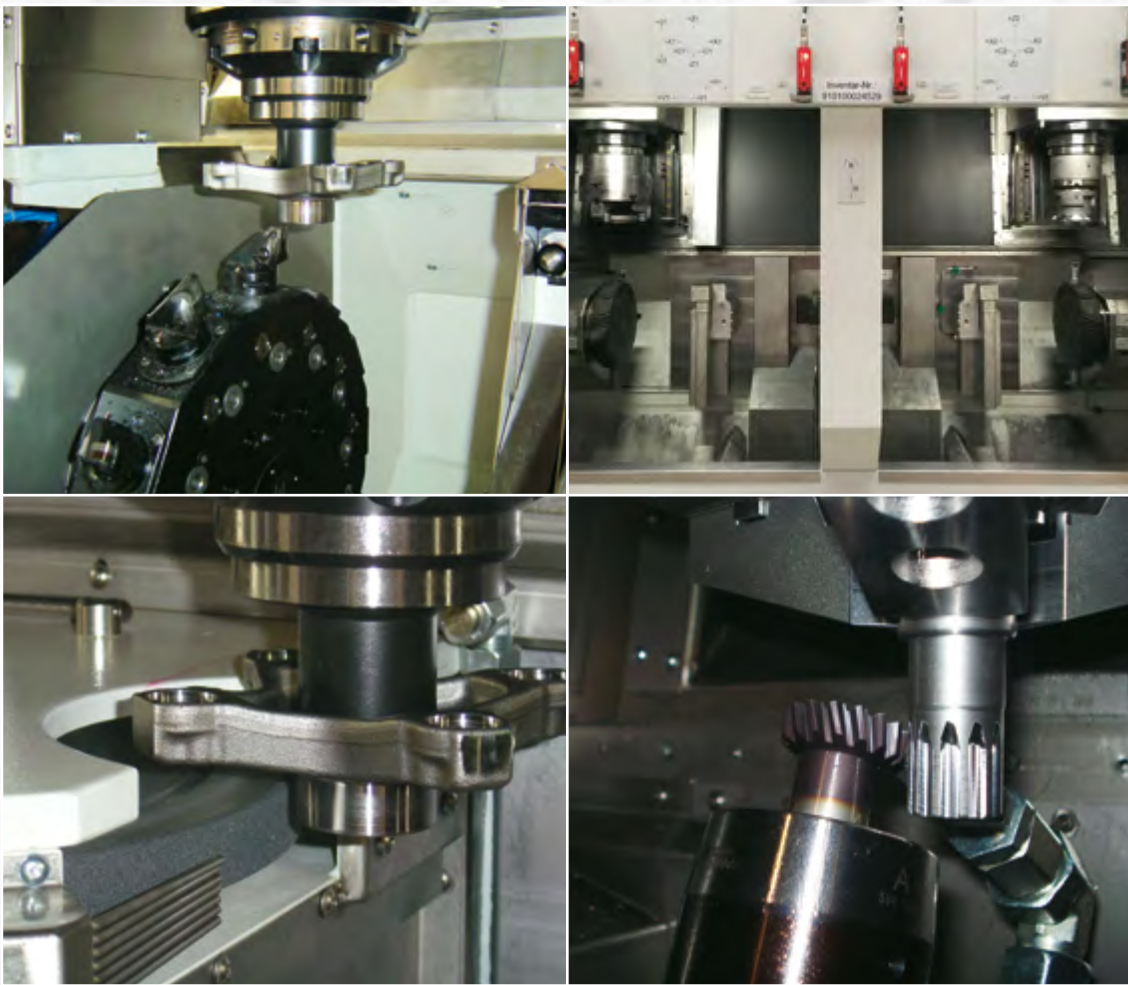


RASOMA Vertical Turning Centres DZS and DS



RASOMA

Werkzeugmaschinen GmbH

A member of the NSH-Group

since 1895

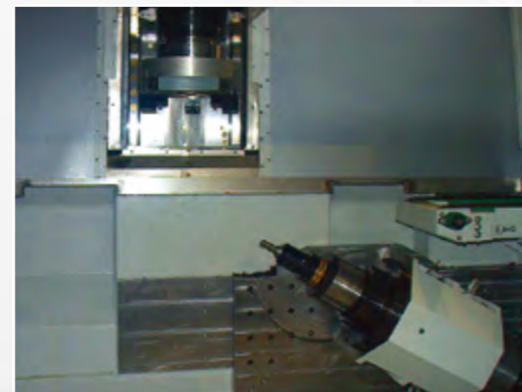
TOWARDS THE FUTURE WITH TRADITION



DZS 315-2 with 2 drilling-milling processing stations and 12-fold turret VDI 50



Si 840D-sl with Rasoma screen



DZS 315 with angle-adjustable drilling-milling spindle



Basic structure of the DZS machines, here with two compound slides on three linear guides with intermediate linear motor



Simultaneous machining of clutch bodies at two processing stations of the machine DZS 315-2

Concept

Our newly developed DZS machines are available in 5 sizes and can be equipped with one spindle, two spindles, and with additional machining devices for high-performance milling, hob peeling (gear cutting), shaping, engraving and other machining methods.

The centres may be operated with two independent compound slide rests enabling parallel machining at the same time.

Depending on the respective machine size, the longitudinal slide moves along two or three linear guides and has a ball screw drive or linear drive.

Short auxiliary process times:

- Linear drive or ball screw drive for the longitudinal slide
- Linear drive 100 m/min rapid traverse in the cycle time- determinative X-axis; ball screw drive 75 m/min
- Highly dynamic drives for the main spindle and the Z-axis
- Turret indexing time < 1 sec.

High flexibility:

- Tailored to the manufacturing job to be handled
- Construction and manufacturing of automation, e.g. gantry, manipulators, gripper components, storage, magazines, conveyor etc. all from the house RASOMA

Options

- Installation of additional machining units
- Automation system tailored to the technology applied
- Integrated measuring station inside turret, working area or on the outside
- Tool and process monitoring
- Driven tools
- And many other features



DZS 250-2 with two motor spindles, two compound slides and two 12-fold star turrets for simultaneous processing of OP 10 and OP 20



Hobbing of contour at the periphery of a disc-shaped part in DZS 250



DZS 200-2 with block tools for synchronous processing of hardened sliding sleeves



DZS 125-2 with 2 x 3 block tools, turning station and finished part slide



DS 200 with feed and discharge conveyor of work pieces, RASOMA portal RP 30 and external measuring station (coloring as per specification sheet)

Concept

Very high rigidity thanks to:

- Separate x- and z-slides (no compound slide)
- Upper of the machine designed as welded monoblock filled with polymer concrete

High thermal stability thanks to:

- Cooled motor spindle
- Controlled fume exhaust
- Chip conveyor

Short ancillary process times:

- Rapid traverses of up to 60 m/min at high accelerations; hydraulic weight counterbalance in the vertical axis
- Feed and removal of the work piece at speeds of up to 120 m/min, that means loading and unloading of the spindle takes less than 6 seconds
- Turret indexing time < 1 sec.

High flexibility:

- Tailored to the manufacturing job to be handled
- Construction and manufacturing of automation, e.g. gantry, manipulators, gripper components, storage, magazines, conveyor etc. all from the house RASOMA

Options

- Automation system tailored to the technology applied
- Integrated measuring station inside turret, working area or on the outside
- Minimal quantity lubrication
- Tool and process monitoring
- Driven tools
- And many other features



DS 100 coloring according to customer request



10 DS 250 machines with oval storage, lined up in pairs, for semiautomatic machining of gear wheels for commercial vehicles before and after heat-treating



DS 250, interlinked



Fully automatic machining of 1st and 2nd clamping operation, turning of the wheel hub to be machined in the gripper



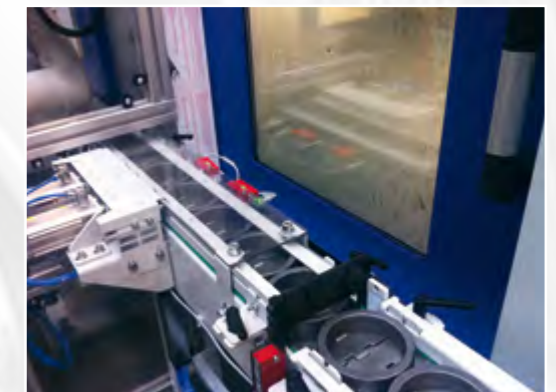
Plate storage for raw parts and telescopic slide with manipulator



Articulated robot for loading/unloading and feeding of the measuring station, SPC slide and stacking mandrel storage of finish parts



RASOMA telescopic slide for feeding and removal of parts



Feed conveyor for raw parts with baffle for prevention of false placed work pieces



SPC slide

Technology solutions implemented with RASOMA vertical turning centres



Technical data

		DS 100	DS200	DS 250	DZS 125 DZS 125-2	DZS 200 DZS 200-2	DZS 250 DZS 250-2	DZS 315 DZS 315-2	DZS 400 DZS 400-2
suitable for process combination*		conditional	conditional	conditional	yes	yes	yes	yes	yes
Machining area									
Swing diameter	mm	280	280	280	320	320	440	440	580
Chuck Ø, standard	mm	210	210	250	125	210	250	315	400
X-axis (horizontal)	mm	300	300	300	720 / 1,520 / 2,320	720 / 1,520 / 2,320	720 / 1,520 / 2,320	720 / 1,520 / 2,320	720 / 1,520 / 2,320
Z-axis (vertical)	mm	300	300	300	300	300	400	400	500
Y-axis (optional)	mm	-	-	-	+/- 40	+/- 40	+/- 60	+/- 60	+/- 80
Feed drives									
Ball screw Ø X	mm	40	40	40	linear drive	linear drive	40	40	40
Ball screw Ø Z	mm	40	40	40	32	32	50	50	63
Rapid traverse X-axis	m/min	30	30	30	80	80	75	75	75
Rapid traverse Z-axis	m/min	30 (60)	30 (60)	30 (60)	60	60	45	45	30
Direct driven motor spindle									
Spindle head with short taper	size	A5	A5	A6	A5	A6	A6 (A8)	A8	A11
Rated power, 100% duty cycle	kW	10	16,5	28,3	25,8	31	28,3	49	64
Rated torque, 100% duty cycle	Nm	64	105	300	60	130	300	585	700
Maximum speed (optional)	rpm U/min	5,000 (8,000)	5,000 (6,000)	3,500 (5,000)	4,000 (8,000)	3,500 (6,000)	3,500 (5,000)	3,500 (4,000)	2,000 (3,000)
Diameter of the front bearing	mm	90	90	120	90	90	120	140	180
Control system									
Type		SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line	SIEMENS Si 840 D solution line
Tool carrier									
Star-type turret	places	12	12	12	12	12	12	12	12
Driven tools		optional	optional	optional	optional	optional	optional	optional	optional
Cylindrical shank adapter (optional)	mm	30	40	40	30	30	40 (50)	40 (50)	50
add. block tools possible		-	-	-	yes	yes	yes	yes	yes
Separate tool spindle possible		-	-	-	yes	yes	yes	yes	yes
Weight									
ca.	kg	5,500	6,000	6,500	6,500 10,000	6,700 10,400	12,000 15,000	12,300 15,600	20,100 24,000

*) turning - milling, grinding, skiving, engraving and so on

Range of products and services of RASOMA

- Machine tools
- Special-purpose machines
- Automation solutions
- Component production
- Services (consultancy, technology, customer service, maintenance etc.)



The highly productive RASOMA end-machining center EBZ 200-500, equipped with robot for loading & unloading



RASOMA vertical- shaft turning center DWS 250-4 with automated loading and unloading for workpieces

Selected references in alphabetic order

Anji Precision, CN
 Bitzer, DE
 Blickle, DE
 BMW, DE
 Buderus Guss, DE
 Caterpillar, US
 CMV, IT
 Continental, DE
 Cotarko, DE
 Daimler, DE
 Daimler, US
 Eifelwerk Gruppe, DE
 EMAG, DE
 Federal Mogul, DE
 FlammAEROTEC, DE
 Ford Aquitaine, FR
 Ford, UK
 Ford Otosan, TR
 Freudenberg, DE
 General Motors, U
 GEWES, DE
 GKN, DE
 GRIS Umformtechnik, DE
 HAY, DE
 HEGENSCHIEDT-MFD, DE
 Helwan Diesel, EG
 IFA Rotorion, DE
 John Deere, FR
 KmB Technologie, DE
 KOKI Technik, DE
 Kordel, DE
 Krause & Mauser Maschinenbau, DE
 KRS-Seigert, DE
 KTR Tacke Kupplungstechnik, DE
 Küpper, DE
 Lakshmi, IN
 Linamar, DE
 Mahle, DE
 MAN Ferrostahl, DE
 Mannesmannrohr, DE
 MTS Traktorenwerk Minsk, BY
 MUBEA, DE
 Nabtesco ITG, DE
 NILES-SIMMONS Industrieanlagen, DE
 NZWL Neue Zahnradwerk Leipzig, DE
 Opel, DE
 Orsk Machine Building, RU
 Profiator, DE
 Rege, DE
 Reintjes, DE
 Schmidt Automotive GmbH, DE
 SEW, FR
 SHW, DE
 UKM, DE
 Visteon, US
 Volkswagen, DE
 VTF Group, CH
 VTZ Volszhky, RU
 Wildauer Schmiedewerke, DE
 Zimmermann, DE

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