



Radial drilling machines

Technical introduction

For types : VR 50, VR 63 a VR 80

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Obsah:

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1 Brief introduction

Industrial radial drilling machines allow drilling, threading into wide range of workpieces. The design is based on the classic radial drilling machines manufactured in the former Czechoslovakia.

This product range a sufficiently rigid, precise and powerful machine with a long service life. Compared to the earlier ones, such as VR 4A provide current drilling machines much simple, faster and most reliable spindle speed and feed changing system (shifting system)



History and today's production of radial drilling machine

Today in global time you can find similar drilling machine from another supplier. We openly declare the origin of the machine. Production history of these types actually dates back to the times of the former Czechoslovakia, when the company developed a new type Kovosvit drills with cylindrical stand. All production was moved to Shenyang. Over time, there was many trades with production licenses, so now you can find a lot of manufacturers from China or India who produce these drills.

The company M-MOOS this original concept has adjusted both mechanically and electrically, which are also key differences from other suppliers. Now it is a long term production base on OEM production, when our company reduce the production costs and control the production in company of our long-term partners in China. Even long-term partner is still needed to check. Therefore, the machine is tested several times during the production, and its own controller for further inspection takes place within our company in the Czech Republic before delivery to the end user.

Thus manufactured machines deliver more than 10 years to customers in Europe and the Russian Federation

Machine's marking and selection of suitable type

VR XX

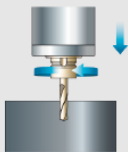
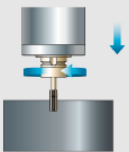
XX : 50, 63 a 80 = max. drilling diameter into steel



The VR 50 is the most popular type. The size of the drill with Morse cone No.5 has a equal rigidity and size as older VR4A

VR 50 is the optimal solution for most job shops that need to drill holes Ø50 mm and cut threads till size M30
In case of request for the fabrication of larger diameter We recommended to choose the higher models like VR 63 or VR 80, which have more powerful spindle motor and overall rigidity

Using and power

	Drilling (steel and cast iron)			Thread cutting(steel / cast iron)	
	VR 50	Ø 50		VR 50	M40/M30
	VR 63	Ø 63		VR 63	M50/M40
	VR 80	Ø 80		VR 80	M60/M50



16 spindle steps without any frequency converter provide high torque, which you will appreciate during power cutting.

2 Technical specification

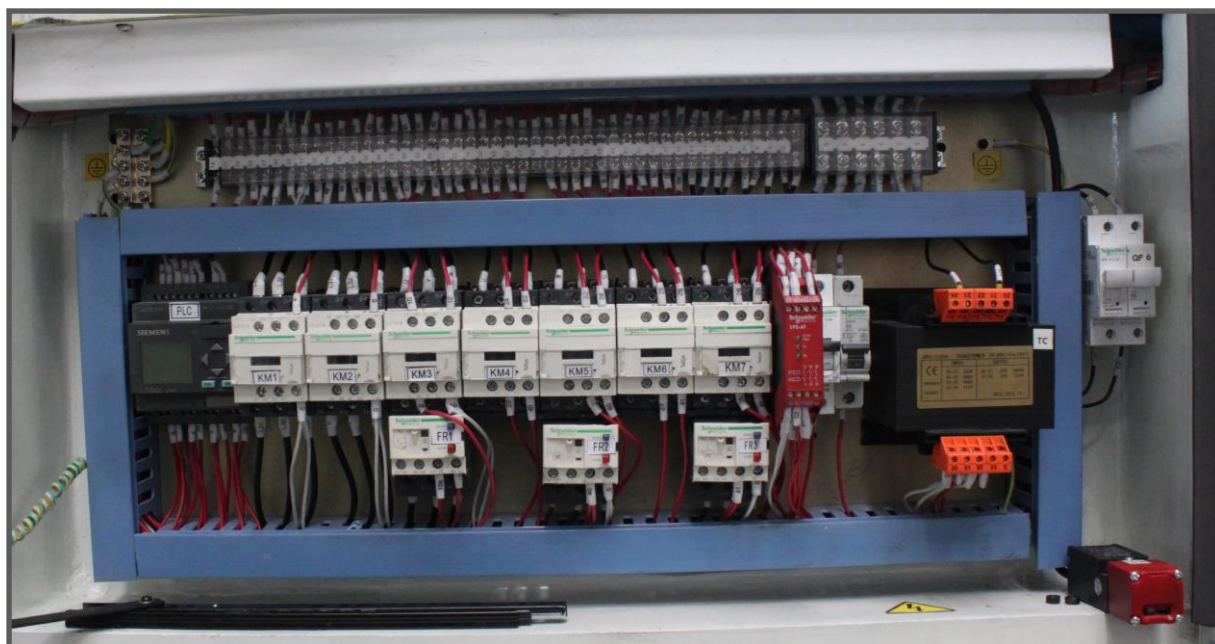
Type		VR 50	VR 63	VR 80
Max. drilling diameter (mm)		50	63	80
Distance between spindle and column (mm)	Max	1600	2000	2530
	Min	350	450	530
Distance between spindle nose and base surface (mm)	Max	1220	1650	2050
	Min	320	450	600
Spindle travel (mm)		315	400	450
Taper size		5#	5#	6#
Spindle speeds (rpmmin)		25 -2000	25 -1600	16 -1250
Number of spindle speed steps		16	16	16
Working feed of spindle (mm/rpm.)		0.04-3.20	0.04-3.20	0.04-3.20
Number of spindle feed steps		16	16	16
Drilling table (box) size (mm)		500×630	630×800	750×1000
Horizontal travel of spindle box (mm)		1250	1550	2000
Power of main motor (kW)		4	5.5	7.5
Net weight (kg)		3500	7300	10500
Overall dimensions (l×w×h) (mm)		2500×1070×2880	3080×1250×3245	3730×1400×4835

Hydraulic system and lubrication system

	Oil in spindle box (temporally filling)	Automatic lubrication of column surface (non- temporally)	Gear for vertical screw	Cooling system of workpiece
Typ oleje	hydraulický olej	Olej na vodící plochy	Ložiskový olej	Cooling
VR 50	3,5 l	150 ml	3,5 l	10L
VR 63	3,5 l		4 l	15L
VR 80	3,5 l		4,5 l	20L

Specification of main electric parts

	Main motor	Hydraulic Motor	Coolant motor	Motoof vertical feed	Fuse
VR 50	4 kW	0,75 kW	0,125 kW	1,5 kW	25 A
VR 63	5,5 kW	0,75 kW	0,125 kW	2,2 kW	32A
VR 80	7,5 kW	0,75 kW	0,125 kW	3 kW	63 A



The base of the control circuit is PLC's programming Siemens controllers and safety units Schnider. That our proposed circuit is the only one in the world that meets current Czech and European standards on safety

3 Machine installation – base size

Umístění

The conditions for the proper operation of this machine are as follows:

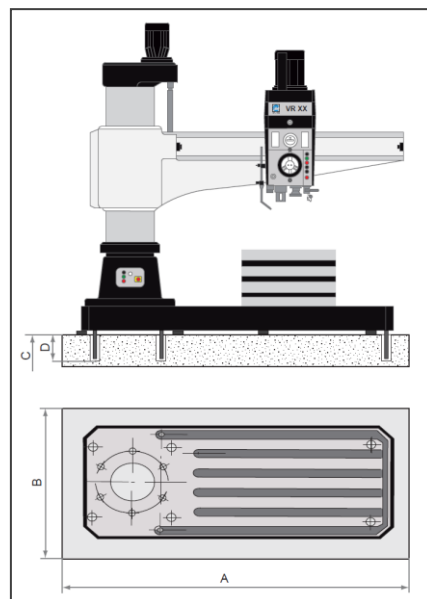
Ambient temperature: 0 ° C ~ 45 ° C

Humidity: 30% ~ 85%

Atmospheric pressure: 86 ~ 106 kPa

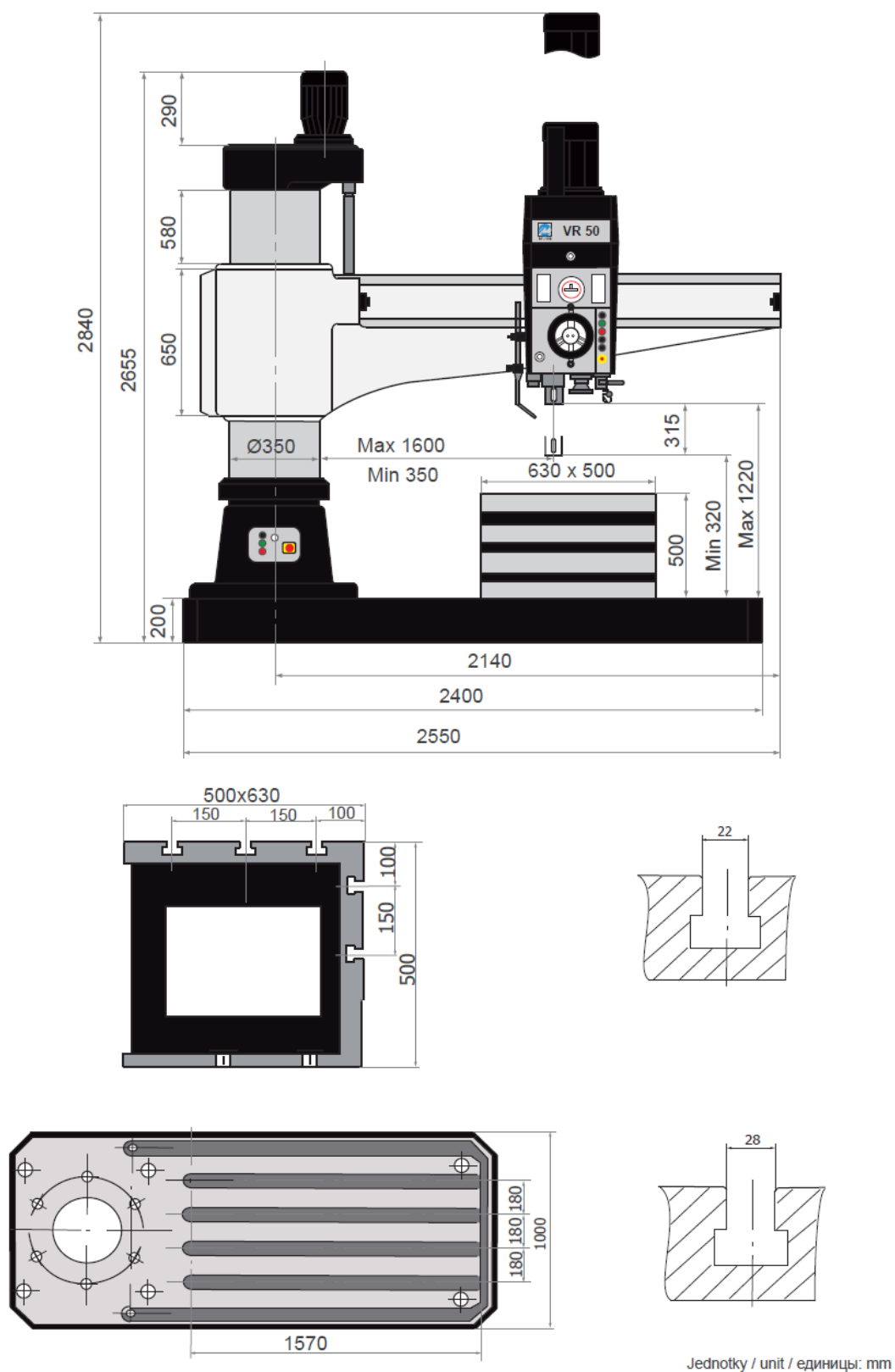
Clean air with particulate matter concentrations to 10 mg / m³ without acid, alkaline and toxic gases, explosive and flammable compounds. The machine should be located in a place where it is adequately protected from the elements such as rain, snow, cold, high heat etc., while the machine should be installed in a place without ambient vibrations, direct sources of heat and direct sunlight.

Before installing the machine should be completely finished machine base, which will occupy a place according to the diagram. Drilling is recommended to anchor. To avoid mistakes, anchor holes are made to the exact designation by the size of the base of the machine during installation. Conventional anchoring is performed by threading bars and chemical anchors.

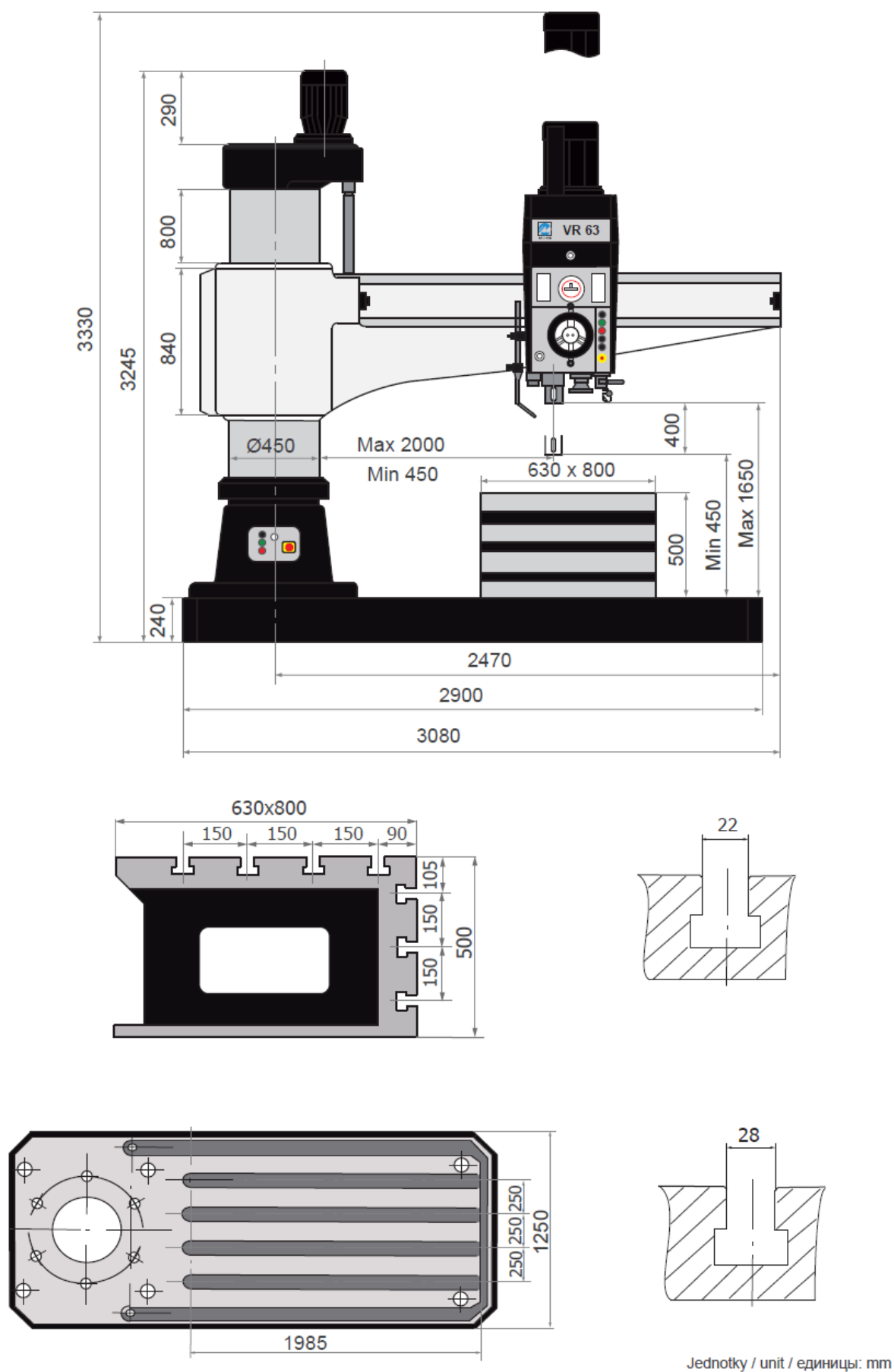


As regards the machine with rotating arm, is needed before the final decision on the placement machine to consider the fact that the minimum distance between the existing obstacles such as neighboring machines, other devices or the wall and the horizontal end point of the arm must be 800 mm

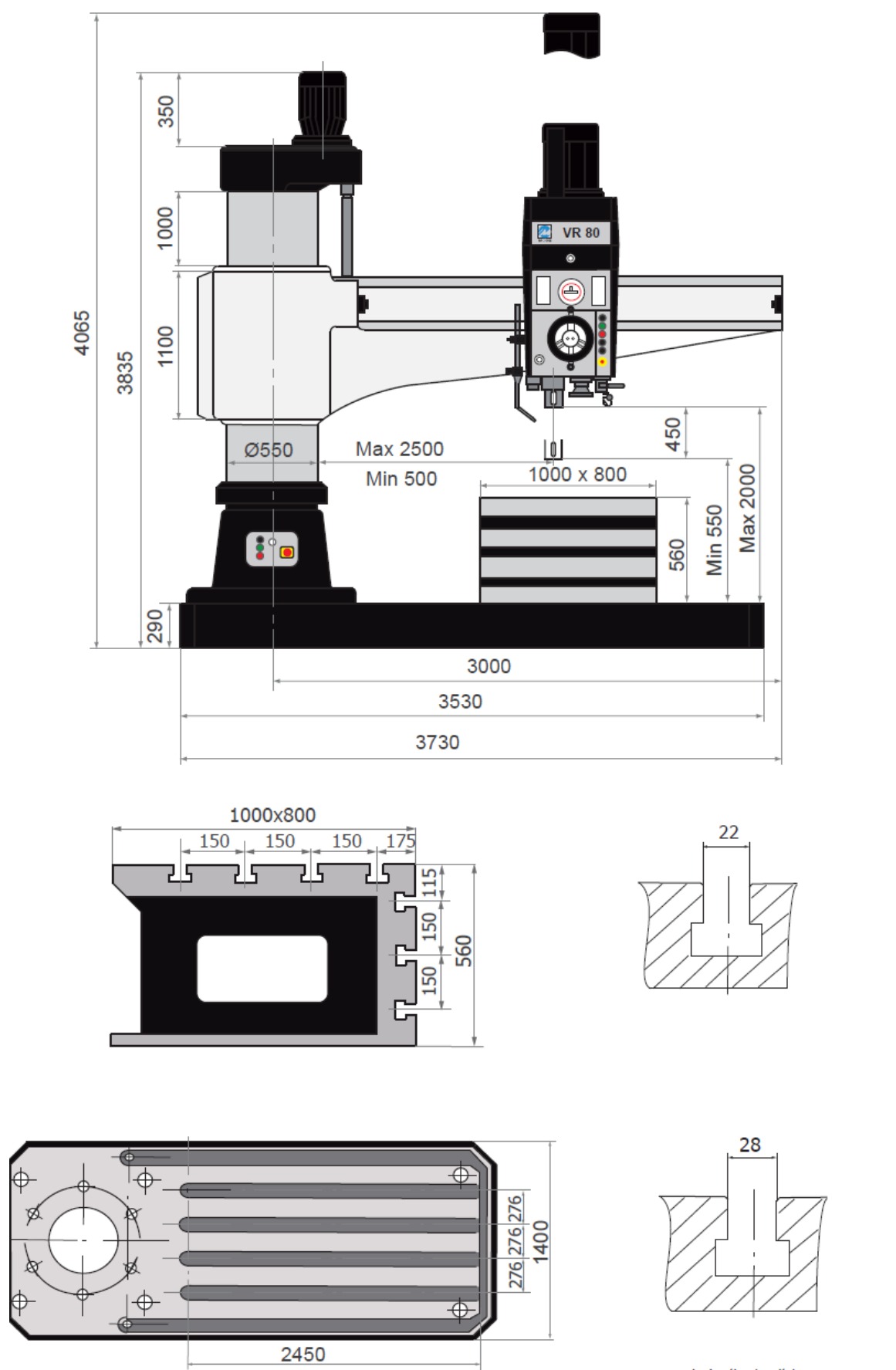
	A Length of base	B Width of base	C Depth of base	D Depth of anchoring holes
VR 50	2700 mm	1300 mm	500 mm	350 mm
VR 63	3270 mm	1550 mm	600 mm	350 mm
VR 80	3920 mm	1790 mm	700 mm	500 mm

Machine layout

VR 50



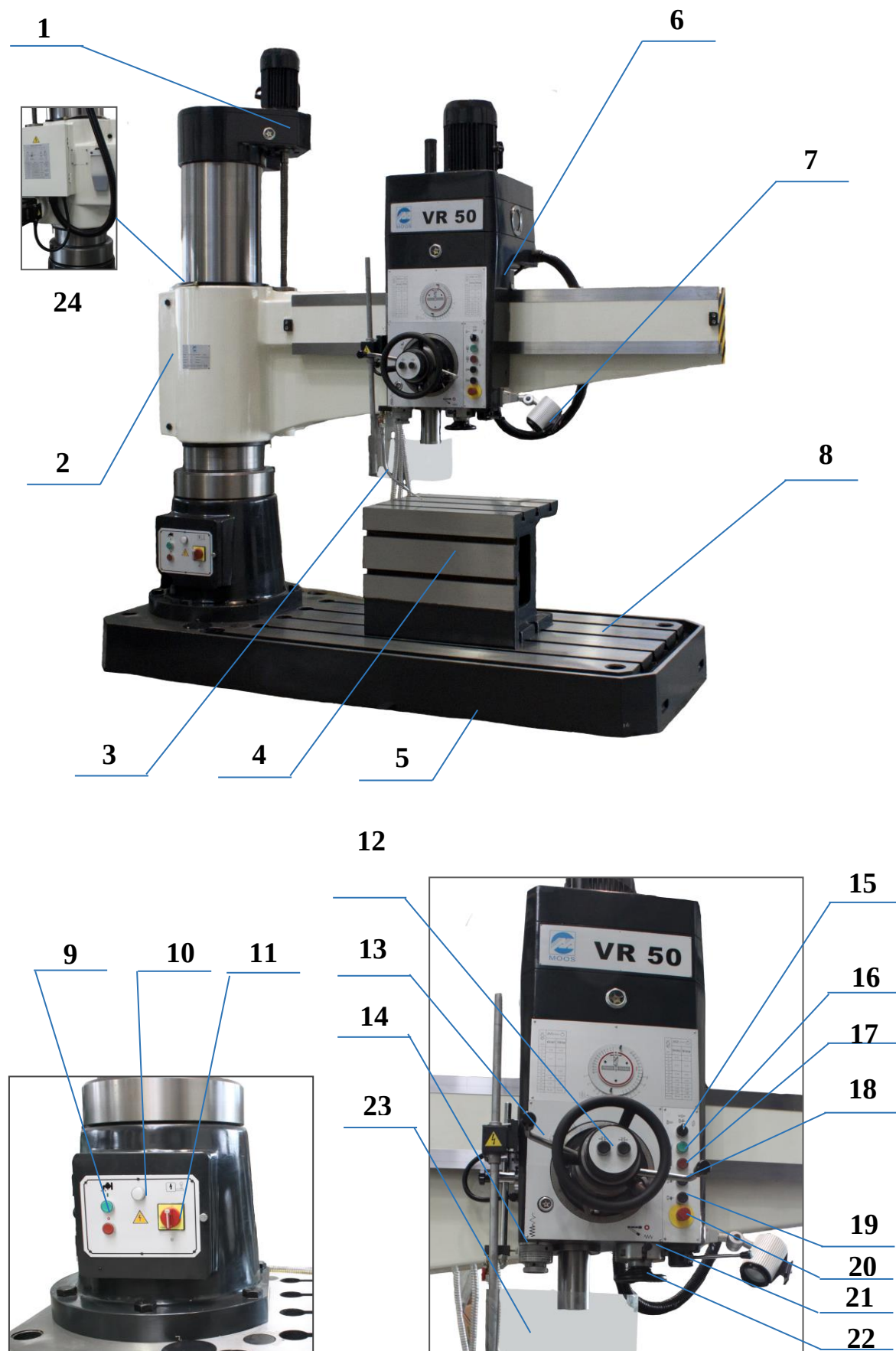
VR 63



VR 80

Jednotky / unit / единицы: mm

4 Standard configuration



Item	Standard configuration
1	Motor driven vertical feed
2	Hydraulic clamping system of arm and column
3	Workpiece cooling system
4	Drilling table – drilling box
5	Main parts are made from high quality cast iron
6	Hydraulic clamping of spindle box
7	Working light - LED
8	Grinded surface of base and drilling table
24	Automatic lubrication of column
Item	Control parts
9	Power off/on of coolant pump
10	Power indication
11	Main switch
12	Clamp/Unclamp Button
13	Lever for manual spindle feed
14	Handle for spindle speeds change and feed change (hydraulic shifting)
15	Clamping selection button (spindle box, column or spindle box and column together)
16	Main motor power on
17	Main motor power off
18	Arm movement up (with arm unclamp)
19	Arm movement up (with arm clamp)
20	Emergency stop button
21	Lever for automatic or manual spindle feed
22	Micro feed
23	Safety guard – if the guard is open machine stop automaticly
Color	blackshadow : RAL 7021 and white: RAL 9003
Documents	Operation manual, Original Electric daigrams ,CE declarationMachine accuracy test chart, Packing list



According to the government decision, all machine placed on the market in the Czech Republic and EU meet the following guidelines and government regulations:

- zákon č. 22/1997 Sb. ve znění pozdějších předpisů
- nařízení vlády č.176/2008 Sb., č. 616/2006 Sb.
- directive 2006/42/ES, 2004/108/ES, 2006/95/ES, 2009/105/ES
- norm - ČSN EN 12717+A1

If the drill meets the above provisions, it is in terms of traffic safety all perfectly fine. Drilling VR 50, 63 and VR80 these provisions meet.

Foto



VR 63 with DRO in blue-white color combination



VR 80 v in blue-white color combination

5 Optional accessories

No.	Item	No.	Item
1	Swivel drilling box	25	Machine vise with hydraulic power 6516-125
2	Next drilling box VR 50	26	Machine vise with hydraulic power 6516-160
3	Next drilling box VR 63	27	Machine vise with hydraulic power 6516-200
4	Next drilling box VR 80	28	Modular machine vise 6517-100
5	Reduction MT 5-4	29	Modular machine vise 6517-125
6	Reduction MT 5-3	30	Modular machine vise 6517-160
7	Reduction MT 5-2	31	Modular machine vise 6517-200
8	Reduction MT 6-5	32	Rotary and swiveling machine vise 6530-100
9	Reduction MT 6-4	33	Rotary and swiveling machine vise 6530-125
10	Reduction MT 6-3	34	Rotary and swiveling machine vise 6530-160
11	Extended reduction sleeve 5x2	35	Self centric machine vise 6531-125
12	Extended reduction sleeve 5x3	36	Self centric machine vise 6531-160
13	Extended reduction sleeve 6x4	37	Self centric machine vise 6531-200
14	Quick change machine vise 6542-80	38	3-jaw drilling chuck, range 1,5-13 mm, clamping taper DIN B 16
15	Quick change machine vise 6542-100	39	3-jaw drilling chuck, range 1,5-13 mm, clamping taper DIN B 22
16	Manual vise 6543-85	40	3-jaw drilling chuck, range 1,5-13 mm, clamping taper DIN B 16, TOS
17	Manual vise 6543-100	41	3-jaw drilling chuck, range 1,5-13 mm, clamping taper DIN B 22, TOS
18	Manual vise 6543-120	42	Holder for drilling chuck B16 x 3
19	Manual vise 6543-150	43	Holder for drilling chuck B16 x 4
20	Machine vise 6512-100 (opening 0-80 mm)	44	Holder for drilling chuck B22 x 3
21	Machine vise 6512-125 (opening 0-95 mm)	45	Holder for drilling chuck B22 x 4
22	Machine vise 6512-160 (opening 0-125 mm)	46	Set of drillers 6-10 mm, HSS, 41 pcs
23	Machine vise 6512-200 (opening 0-160 mm)	47	Set of drillers 6-10 mm, HSS Co, 41pcs
24	Machine vise 6512-250 (opening 0-200 mm)	48	Warranty time 24 mnths

6 References

Users in Czech Republic

In years 2009 - 03/2016 : 36 instalations



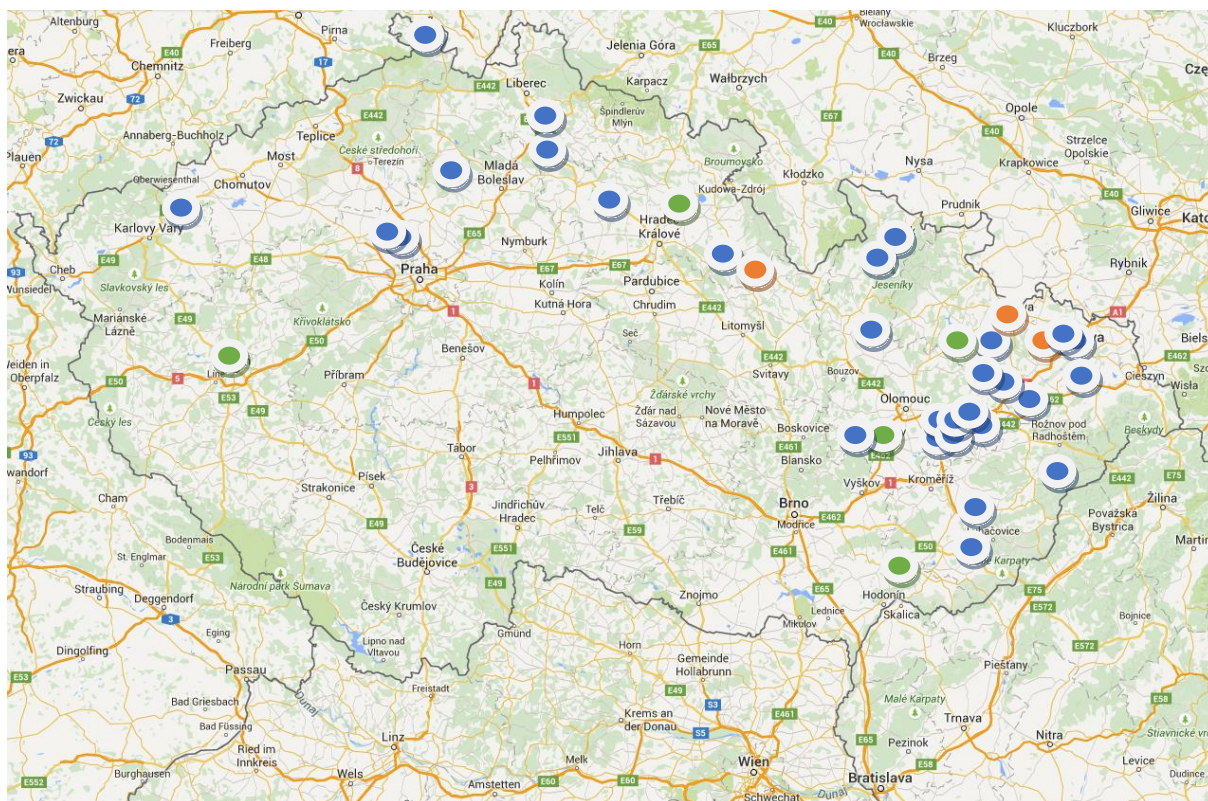
VR 50



VR 63



VR 80



DT Mostárna, a.s.

Siempelkamp
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PRONEO
KOVOVÝROBA - KOVOOBRÁBĚNÍ



Map of users: Slovakia, EU, Russia Fedaratin and former countrise
 In year 2009 - 03/2016 : 24 instalations



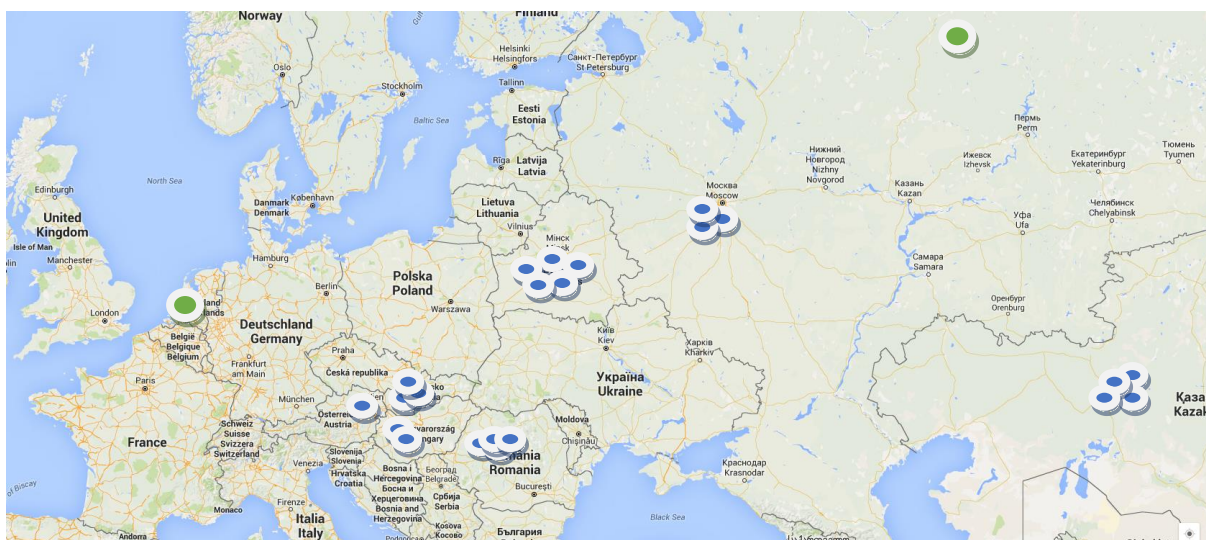
VR 50



VR 63



VR 80



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