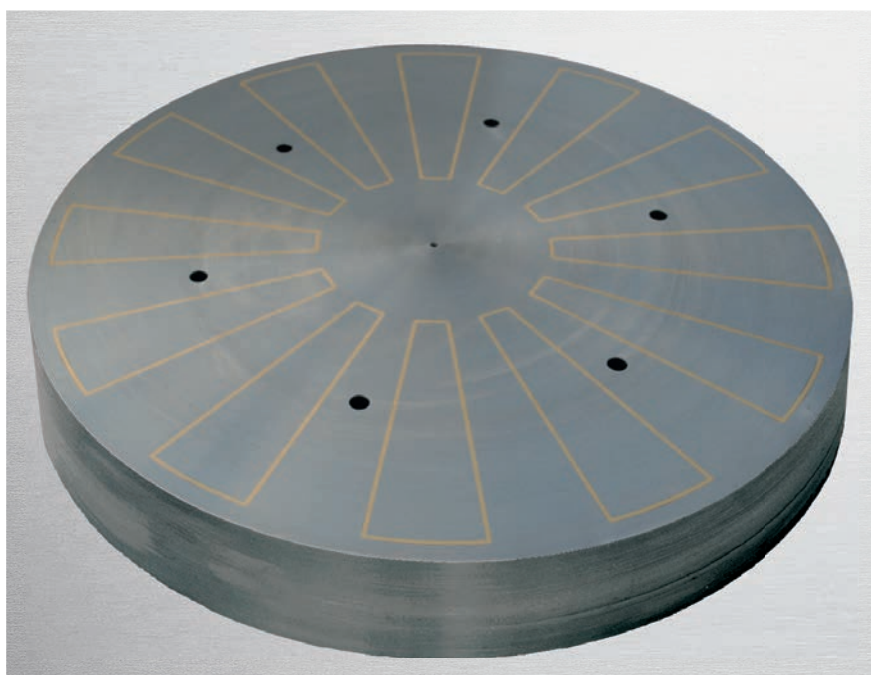


Electro-Permanent-Magnet-Clamping-Chuck



Electro-Permanent-Magnet-Clamping-Chucks, Type 1210, with radial pole spacing if several workpieces are clamped asymmetrically, they must cover at least two poles.

Electro permanent magnet clamping chucks are mainly used on turntables and circular grinding machines. Careful dimensioning of the magnetic system and practical pole spacings ensure clamping of the workpieces at even holding force.

If several workpieces are clamped asymmetrically, they must cover at least two poles.

By energy-conscious magnetizing of the clamping chuck through a definite power pulse highest level of precision is achieved. Then the magnet is disconnected from power and therefore particularly suited for machining tasks within the μm -range.

The big advantage of radial pole spacing is that the workpieces can be separated using pole shoes. This separation is used as run-out range for the grinding wheel in the inside and outside area. Thus the workpiece can be machined on all three sides with optimal form and position tolerances using only one chucking.

The pole shoes can be shifted in the T-slots and thus adapted to the existing workpiece diameter.

Holding force control:

If necessary, the adhesive force can be controlled via pole reversal control unit using a coding switch. This prevents deforming of the workpieces.

Versions:

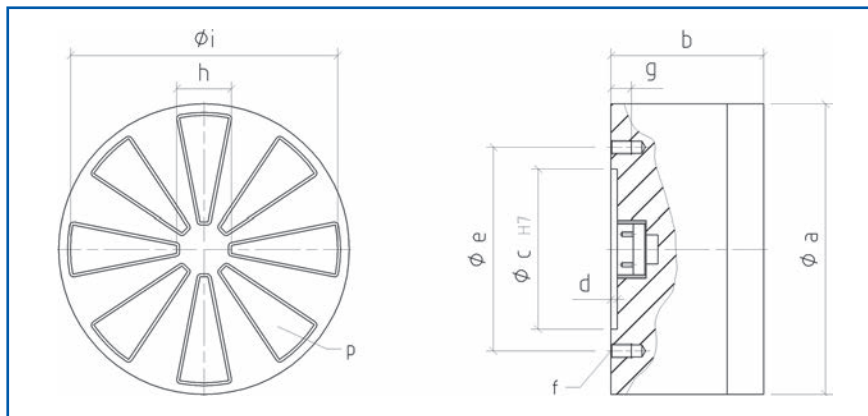
- T-slots in the pole plate for screwing on pole shoes or stops
- Threaded holes in the pole plate for fastening pole strips or top plates
- Central locating hole in the pole surface for centering flanges
- Pluggable socket on the outer surface
- Power transmission via flat or flanged slip rings

Design:

- Protection class IP 67 (except electrical connection)
- Magnet operating time: 100 %

Electrical connection via:

Electronic pole-reversal control units. These devices, designed especially for controlling clamping magnets, function to facilitate the power supply and simultaneously as demagnetisation devices. A microprocessor controls and monitors all functions and offers optimal switching comfort with numerous control and monitoring functions. The adhesive force is adjustable in up to 16 stages. In addition, these pole-reversal control units also allow additional configuration of parameters and optimised settings. All device types offer particularly impressive shifting dynamics.



Electro-Permanent-Magnet-Clamping-Chuck

Type 1210
with radial pole spacing

Characteristics:

- Highest level of precision -
- Activated magnet remains cold.
- Highest level of safety -
- Holding force even after power failure.
- Energy-conscious -
- Power used only for short pulses.

Dimensions and technical data:

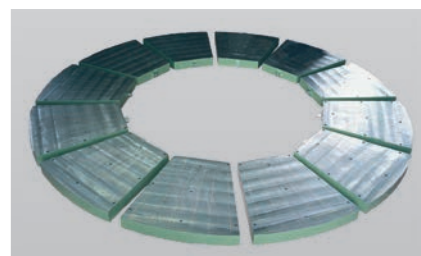
Type	p No. of pole pairs	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	h non-magn. zone [mm]	i [mm]	Weight [kg]	Connection value Pole-reversal control unit [V/A]*
1210-20	6	200	100	110	3	140	4xM10	14	20	178	22	210/10
1210-30	8	300	100	160	3	190	4xM12	16	58	270	50	210/30
1210-40	8	400	110	210	4	250	6xM12	16	80	350	97	360/30
1210-50	8	500	110	280	4	320	6xM12	16	113	452	151	360/30
1210-60	8	600	120	350	4	390	6xM16	18	113	552	238	360/30
1210-70	8	700	127	400	4	450	6xM16	18	113	648	342	360/30
1210-80	12	800	132	450	4	500	6xM16	18	216	751	465	360/30
1210-90	12	900	137	500	4	560	8xM16	18	216	848	610	360/60
1210-100	12	1000	137	550	4	620	8xM16	18	216	944	753	360/60
1210-110	12	1100	147				Backside as agreed		300	1050	830	360/60
1210-120	12	1200	147				Backside as agreed		300	1150	990	360/60
1210-125	14	1250	147				Backside as agreed		300	1250	1390	360/60
1210-140	16	1400	157				Backside as agreed		300	1350	1610	360/60x2
1210-150	16	1500	152				Backside as agreed		400	1450	1850	360/60x2
1210-160	16	1600	152				Backside as agreed		500	1550	2110	360/60x2
1210-180	16	1800	162				Backside as agreed		500	1750	3020	360/60x2
1210-200	16	2000	162				Backside as agreed		500	1950	3730	360/60x2
1210-230	16	2300	187				Backside as agreed		500	2150	4780	360/60x2

Other dimensions and number of pole pairs are available upon request

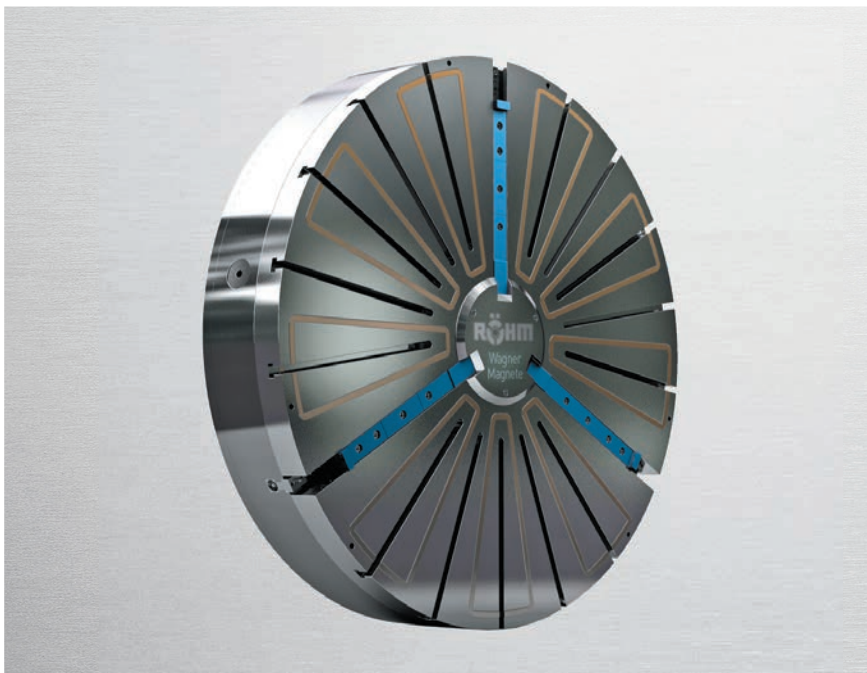
* 210 V D.C. variants are also available with 360 V D.C. nominal

Special Solutions:

- magnet clamping chuck with separately switchable clamping area
- magnet clamping chuck in segment design



Hybrid-Clamping-Chuck



The Hybrid-Clamping-Chuck, type 1210H a joint product of company Röhme and Wagner company, combines the best of the two companies. Consisting of 3 or 6 clamping chucks and one electro permanent magnet clamping chuck the device efficiently and flexibly complies with today's requirements for quick and economic clamping devices.

Bearing rings and other easily deformable, ring shaped parts are safely centered and clamped in a matter of seconds. The magnetic holding force can easily be adjusted in 16 steps to prevent deformations of the part. The clampings can be removed after the centering to enable 3-side machining.

Advantages:

- individually adjustable thanks to the modular design
- Set-up times reduced by up to 80% thanks to accurate clamping in seconds
- machine down times reduced to a minimum
- 3-side machining for turned parts and workpieces
- 16 individually adjustable holding force levels
- uniform and distortion-free clamping force
- combined magnet and center chucks clamping force possible
- high process reliability for efficient series production
- rapid return on investment
- available in diameter sizes from 200 to 5000 mm

Holding force control:

If necessary, the adhesive force can be controlled via pole reversal control unit using a coding switch. This prevents deforming of uneven workpieces.

Versions:

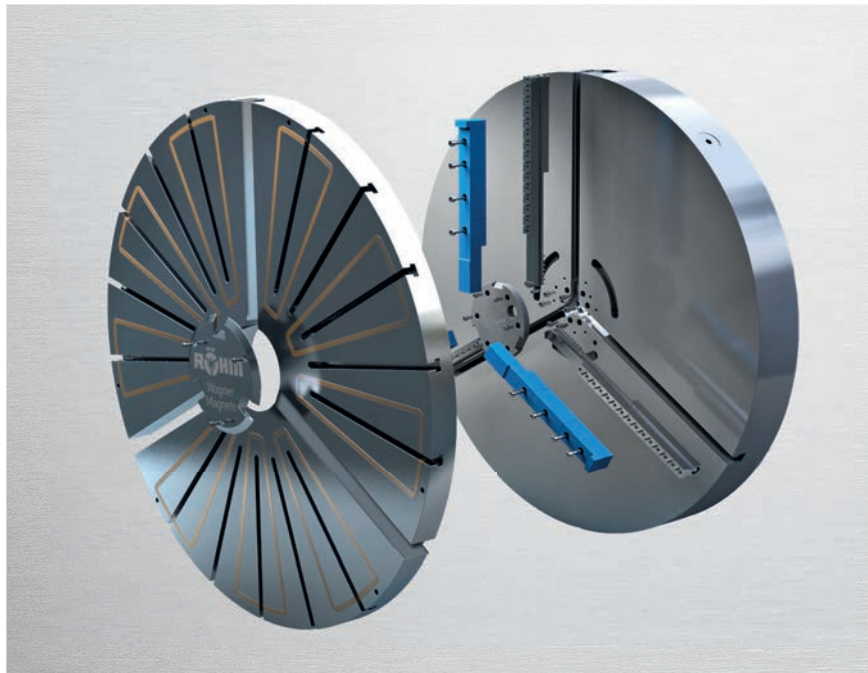
- T-slots in the pole plate for screwing on pole shoes or stops
- Threaded holes in the pole plate for fastening pole strips or add-on pole plates
- Pluggable socket on the outer surface
- Power transmission via flat or flanged slip rings
- Mechanical centering function on the outer surface or power-operated in the centre

Design:

- Protection class IP 67 (except electrical connection)
- Magnet operating time: 100 %

Electrical connection via:

Electronic pole-reversal control units. These devices, designed especially for controlling clamping magnets, function to facilitate the power supply and simultaneously as demagnetisation devices. A microprocessor controls and monitors all functions and offers optimal switching comfort with numerous control and monitoring functions. The adhesive force is adjustable in up to 16 stages. In addition, these pole-reversal control units also allow additional configuration of parameters and optimised settings. All device types offer particularly impressive shifting dynamics.



Hybrid-Clamping-Chuck Type 1210H

The perfect combination
of magnetic and
mechanic clamping forces

Dimensions and technical data:

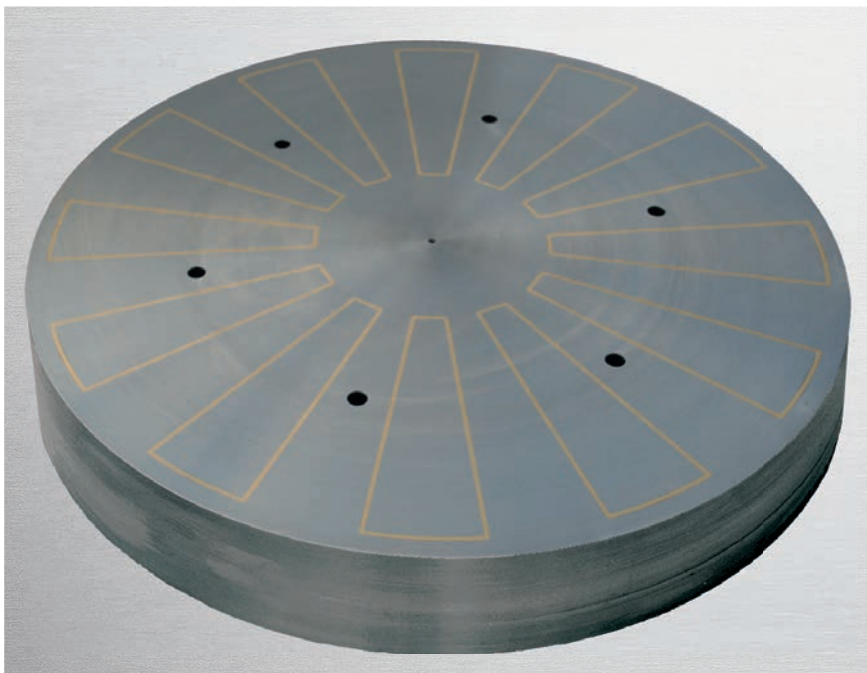
Type	Diameter [mm]	No. of pole pairs [mm]	Overall height [mm]	magnetic zone [mm]	Weight [kg]	Connection value pole-reversal control unit [V/A]*
1210H-20	200**	3	150	20 - 170	33	210/10
1210H-25	250**	3	150	20 - 220	51	210/30
1210H-30	300**	6	150	70 - 270	75	210/30
1210H-40	400**	6	150	70 - 360	132	360/30
1210H-50	500	6	120	220 - 440	165	360/30
1210H-60	600	9	120	220 - 540	240	360/30
1210H-70	700	9	120	220 - 640	324	360/30
1210H-80	800	9	135	220 - 740	475	360/30
1210H-90	900	9	135	220 - 840	594	360/60
1210H-100	1000	12	145	280 - 940	790	360/60
1210H-110	1100	12	145	280 - 1040	965	360/60
1210H-120	1200	12	170	300 - 1140	1345	360/60
1210H-130	1300	12	170	350 - 1240	1575	360/60x2
1210H-140	1400	12	170	350 - 1340	1825	360/60x2
1210H-150	1500	15	170	400 - 1440	2100	360/60x2
1210H-160	1600	15	170	400 - 1540	2390	360/60x2
1210H-180	1800	15	180	600 - 1740	3200	360/60x2
1210H-200	2000	15	180	600 - 1940	3950	360/60x2

Other dimensions and number of pole pairs are available upon request

* 210 V D.C. variants are also available with 360 V D.C. nominal voltage

** Outer diameter of magnet chuck plus 60 mm with overlapping jaws

Electro-Permanent-Magnet-Clamping-Chuck



Electro-Permanent-Magnet-Clamping-Chuck Type 1210V with radial pole pitch and increased adhesive force are particularly suited for central clamping of rings, flanges, bearing housings and similar rotation-symmetric components

Wherever maximum adhesive forces are needed, e.g. to bridge air gaps in uneven workpieces, when applying pole extensions or for magnetically critical materials, this reinforced construction is the first choice.

Electro permanent magnet clamping chucks are mainly used for circular grinding, turning and milling in processing centres.

Optimal accuracy is achieved by energy-aware magnetising of the clamping chuck via a precise electrical impulse. Then the

magnet is disconnected from power and therefore particularly suited for machining tasks within the μm -range.

The radial pole arrangement is suitable for separating work-pieces by using pole shoes. This separation is used as run-out range for the grinding wheel in the inside and outside area. Thus the workpiece can be machined on all three sides with optimal form and position tolerances using only on chucking

One special field of application of this clamping system is the hard turning of ball bearing races. This process involves the bearing ring being clamped over pole shoes or directly onto the Electro-Permanent-Magnet-Clamping-Chuck. A corresponding form radius is provided as run-out range for the hard-turning tool.

Holding force control:

If necessary, the adhesive force can be controlled via pole reversal control unit using a coding switch. This prevents deforming of the workpieces.

Versions:

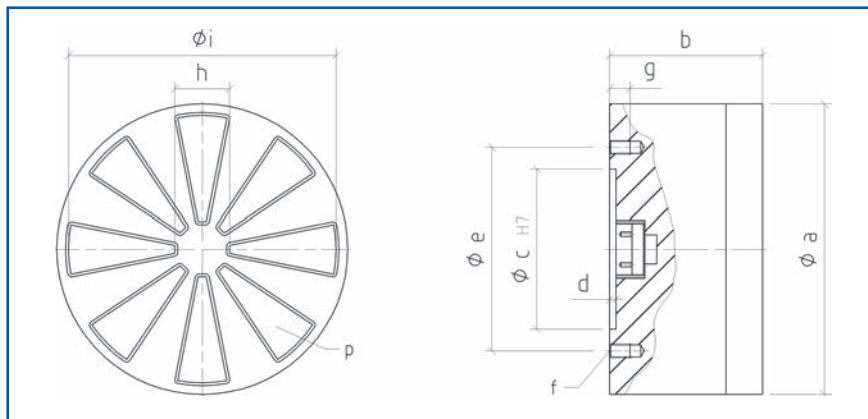
- T-slots in the pole plate for screwing on pole shoes or stops
- Threaded holes in the pole plate for fastening pole strips
- Locating holes in the pole surface for centering flanges
- Pluggable socket on the outer surface
- Power transmission via flat or flanged slip rings

Design:

- Protection class IP 67 (except electrical connection)
- Magnet operating time: 100 %

Electrical connection via:

Electronic pole-reversal control units. These devices, designed especially for controlling clamping magnets, function to facilitate the power supply and simultaneously as demagnetisation devices. A microprocessor controls and monitors all functions and offers optimal switching comfort with numerous control and monitoring functions. The adhesive force is adjustable in up to 16 stages. In addition, these pole-reversal control units also allow additional configuration of parameters and optimised settings. All device types offer particularly impressive shifting dynamics.



Electro-Permanent-Magnet-Clamping-Chuck

Type 1210V
with radial pole spacing and increased holding force

Characteristics:

- Highest level of precision -
- Activated magnet remains cold.
- Highest level of safety -
- Holding force even after power failure.
- Energy-conscious -
- Power used only for short pulses.

Dimensions and technical data:

Type	p No. of pole pairs	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	h non-magn. zone [mm]	i [mm]	Weight [kg]	Connection value Pole-reversal control unit [V/A]*
1210V-20	6	200	110	110	3	140	4xM10	14	20	178	24	210/10
1210V-30	8	300	110	160	3	190	4xM12	16	58	270	54	210/30
1210V-40	8	400	110	210	4	250	6xM12	16	80	350	97	360/30
1210V-50	8	500	110	280	4	320	6xM12	16	113	452	151	360/30
1210V-60	8	600	120	350	4	390	6xM16	18	113	552	238	360/30
1210V-70	8	700	127	400	4	450	6xM16	18	113	648	342	360/30
1210V-80	12	800	132	450	4	500	6xM16	18	216	751	465	360/30
1210V-90	12	900	137	500	4	560	8xM16	18	216	848	610	360/60
1210V-100	12	1000	137	550	4	620	8xM16	18	216	944	753	360/60
1210V-110	12	1100	147				Backside as agreed		300	1040	978	360/60
1210V-120	12	1200	147				Backside as agreed		300	1138	1164	360/60
1210V-125	14	1250	147				Backside as agreed		300	1194	1263	360/60
1210V-140	16	1400	152				Backside as agreed		300	1344	1638	360/60x2
1210V-150	16	1500	152				Backside as agreed		400	1450	1880	360/60x2
1210V-160	16	1600	152				Backside as agreed		500	1540	2140	360/60x2
1210V-180	16	1800	162				Backside as agreed		500	1740	2886	360/60x2
1210V-200	16	2000	175				Backside as agreed		500	1942	3848	360/60x2
1210V-230	16	2300	187				Backside as agreed		500	2240	5439	360/60x2

Other dimensions and number of pole pairs are available upon request

* 210 V D.C. variants are also available with 360 V D.C. nominal voltage.

Special Solutions:

- magnet clamping chuck with adjustable pole shoes
- magnet clamping chuck with different pole strips

