

# 0120

## Permanent-Magnet-Clamping-Chuck





#### Permanent-Magnet-Clamping-Chuck Type 0121

with radial pole spacing

Chucks with radial pole spacing are best suited to centrally clamping workpieces, such as saw blades, piston rings, ball bearings and similar. Chucks can also be provided with a central through-hole or center hole.

The permanent magnet clamping chuck can be switched mechanically. The most recently developed magnetic materials and a stable structure guarantee the highest level of holding force, and high level precision on the pole plate surface.

It is switched on and off using stable shift levers. It requires only a low switching force compared to the high magnetic performance.

The magnet system requires no maintenance. If the surface of the pole plate becomes uneven due to prolonged use, you must refinish it through precise reworking. This maintains the full holding force and plane precision.

#### Dimensions and technical data:

Туре	p No. of pole	а	b	с	d	е	f Thread	g	h non-magn.	i	D max.	Weight app.
	pairs [mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	zone [mm]	[mm]	[mm]	[kg]
0121-15-4	4	150	64	90	3	120	3 x M10	12	20	117	24	9
0121-20-6	6	200	69	110	3	140	4 x M10	14	28	167	30	16
0121-25-6	6	250	69	140	3	170	4 x M12	14	30	217	40	23
0121-30-8	8	300	69	160	3	190	4 x M12	14	40	267	50	36
0121-35-8	8	350	69	210	4	240	6 x M12	14	40	303	50	47
0121-40-8	8	400	69	210	4	240	6 x M12	14	40	354	50	59





### Permanent-Magnet-Clamping-Chuck Type 0126N

with narrow parallel pole spacing

These permanent magnet clamping chuck are particularly suited for grinding on cylindrical tables and cylindrical grinding machines. The 2.5mm narrow pole spacing is optimal for small and thin parts. The robust and stable setup enables high precision repeatability. A very low overall height is achieved by the use of high performance Neodymium magnets. The pole spacing of 2.5 mm consists of 2 mm wide steel poles and 0.5 mm brass elements.

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The magnet system requires no maintenance. If the surface of the pole plate becomes uneven due to prolonged use, you must refinish it through precise reworking. This maintains the full holding force and plane precision.

Туре	p Pole space [mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	Weight [kg]
0126N-15-2.5	2,5	150	44	90	3	120	3 x M10	14	5,5
0126N-18-2.5	2,5	180	44	90	3	120	3 x M10	14	8
0126N-20-2.5	2,5	200	44	110	3	140	4 x M10	14	10
0126N-22-2.5	2,5	220	44	120	3	150	4 x M10	14	12
0126N-25-2.5	2,5	250	44	140	3	170	4 x M12	14	15
0126N-30-2.5	2,5	300	44	160	3	190	4 x M12	14	23

#### Dimensions and technical data:



# 120

# Electro-Magnet-Clamping-Chucks





#### Series 121

with radial pole spacing

Arranging the poles in a radial shape is particularly advantageous if wishing to centrically clamp individual, annular or round workpieces.

(e.g. circular grinding, turning, ...)

With the shape, you can use pole shoes to release the pole pitch of your workpiece for further processing.

#### Series 123

with ring pole spacing

The ring pole spacing is designed to clamp even workpieces, which are not centrally aligned. This chuck is thus particularly suitable for mass distribution with smaller workpieces.

(e.g. flat grinding on rotary table machines).

#### Series 125

with sinusoidal pole spacing

This specific type of pole spacing provides for a distribution of north and south poles over the entire clamping surface, in both longitudinal and transverse directions, which often allows you to boost adhesion significantly compared to other forms of pole space. This is the only chuck, with which you clamp right up to the middle.



Pole shoes improve the positioning of your workpiece and in so doing, enhance the function of the magnetic clamping chuck. Release allows the workpiece to be processed in either the outside or inside diameter without a problem.

#### Structure:

Electro magnet clamping chucks primarily consists of three components:

A solid steel lower section, a copper coil and a pole plate. The coil is moulded within the lower section, which means it is securely protected against vibrations and the ingress of moisture.

One key quality feature of our clamping chucks is the optimal alignment between the electrical power consumption and the magnetic force that can be generated.

While practically applied, the pole plate is subject to wear and tear. Accordingly, it is designed to facilitate multiple reworking before the processing limits are reached. The pole plates can be replaced without any problems, which extends the service life of the overall chuck accordingly.

The pole plate can be individually customised to meet your requirements at any time. This may be relevant for example with additional tapped holes, T-grooves, profile, etc.

#### Design:

- Protection class: IP 65
- Magnet operating time: 100 % (excluding electrical connection)

#### Magnetic technology:

#### Pole spacing

The arrangement of the magnetic pole on the clamping surface is known as the pole pitch. The optimal pole pitch for you depends on the respective usage case.

#### Pole distance

The centre-to-centre spacing from two neighbouring unequal magnetic poles is known as the pole distance. Refer to the following guideline to select the suitable pole distance:

Workpiece thickness x 2=optimal pole distance





### Series 121



Туре	p Number of pole pairs	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	h unmagneti- sed Zone [mm]	i [mm]	Output [Watt]	Weight [kg]
121-10	6	100	80	60	3	80	3xM8	12	16	82	16	4
121-15	6	150	80	90	3	120	3xM10	14	16	128	30	10
121-20	6	200	90	110	3	140	3xM10	14	22	178	48	20
121-30	8	300	90	160	3	190	4xM12	16	46	272	90	45
121-40	12	400	90	210	4	250	6xM12	16	70	362	150	79
121-50	12	500	90	280	4	320	6xM12	16	70	462	190	124
121-60	12	600	100	350	4	390	6xM16	18	70	564	265	198
121-70	16	700	100	400	4	450	6xM16	18	92	662	350	269
121-80	16	800	100	450	4	500	6xM16	18	92	762	440	352
121-90	16	900	100	500	4	560	6xM16	18	92	866	545	445
121-100	16	1000	125	550	4	620	6xM16	18	92	954	660	687
121-120	16	1200	125		Rear side	by agreer	nent	22	200	1154	960	989
121-140	16	1400	125		Rear side	by agreer	nent	22	260	1354	1100	1346
121-160	16	1600	125		Rear side	by agreer	nent	22	300	1554	1630	1758

Other dimensions are available on request (up to a max. diameter of 3000 mm)

### Series 125



Туре	p Pole space [mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	Output [Watt]	Weight [kg]
125-30	11-14-18	300	95	160	3	190	4xM12	16	80	47
125-40	11-14-18	400	95	210	4	250	6xM12	16	130	84
125-50	11-14-18	500	95	280	4	320	6xM12	16	190	131
125-60	11-14-18	600	100	350	4	390	6xM16	18	265	198
125-70	11-14-18	700	100	400	4	450	6xM16	18	350	269
125-80	14-18-25	800	100	450	4	500	6xM16	18	440	352
125-90	14-18-25	900	100	500	4	560	6xM16	18	545	445
125-100	14-18-25	1000	100	550	4	620	6xM16	18	660	550
125-110	14-18-25	1100	100		Rear side l	by agreeme	ent	22	780	665
125-120	14-18-25	1200	100		Rear side l	by agreeme	ent	22	920	791
125-140	14-18-25	1400	100		Rear side l	by agreeme	ent	22	1230	1077
125-160	14-18-25	1600	125		Rear side l	by agreeme	ent	22	1580	1758

Other dimensions and pole space are available on request.

### Series 123



Туре	p Pole space [mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f Thread	g [mm]	h unmagneti- sed Zone [mm]	i [mm]	Output [Watt]	Weight [kg]
123-10	4,5	100	85	60	3	80	3xM8	8	28	76	16	4
123-12	4,5	120	80	70	3	90	3xM8	9	25	97	22	6
123-15	4,5	150	80	90	3	120	3xM10	9	30	120	30	9
123-20	4,5	200	90	110	3	140	4xM10	12	40	174	48	18
123-30	4,5	300	90	160	3	190	4xM12	12	55	268	90	42
123-40	11	400	90	210	4	250	6xM12	15	63	363	150	92
123-50	11	500	90	280	4	320	6xM12	16	93	465	190	144
123-60	11	600	100	350	4	390	6xM16	18	59	563	264	208
123-70	11	700	100	400	4	450	6xM16	18	93	663	350	283
123-80	16	800	100	450	4	500	6xM16	18	120	760	440	369
123-90	16	900	100	500	4	560	8xM16	18	120	854	545	467
123-100	16	1000	100	550	4	650	8xM16	18	120	952	660	577
123-110	16	1100	125	F	Rear side	by agree	ment	22	134	1048	820	989
123-120	16	1200	125	F	Rear side	by agree	ment	22	134	1148	960	989
123-130	16	1300	125	F	Rear side	by agree	ment	22	102	1248	1030	1160
123-140	16	1400	125	F	Rear side	by agree	ment	22	134	1348	1100	1346
123-150	16	1500	125	F	Rear side	by agree	ment	22	102	1448	1440	1545
123-160	16	1600	125	F	Rear side	by agree	ment	22	134	1548	1630	1760

Other pole space and dimensions are (up to a max. diameter 3000 mm) available on request.

#### **Example order:**

Please determine our exact type designation in accordance with the following scheme:

121 - 10 - 6 : 24 Tension Pole space or number of pole pairs Diameter in cm Series

#### **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. **Default values:** 

Tension 24 V DC or 110 V DC Relative duty cycle 100 % (other values on request)





Slip-rings are used in combination with carbon brush holders to convey power for rotating electro and electro permanent magnet clamping chucks.

The type 763 slip-ring is used for separate installation onto the machine hollow spindle. Included in delivery is a slip-ring with a 10 mm bore hole. This location borehole can be subsequently adapted in accordance with the machine spindle, and taking into consideration the maximum dimensions (d). It is important to ensure non-touchable and water-protected covering is used to cover all live parts. The protective earth should be carried along.



Туре	а	b	C	d	е	f	Weight ca.	up to a max.	Applicable carbon brush
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[A]	holder
763-2-3 S-1	78	86	72	10-40	15	60	1,3	20	773-2-3
763-3-3 S-1	103	86	95	10-50	15	60	3,0	32	773-3-3
763-4-3 S-1	123	96	115	10-70	20	60	4,0	64	773-4-3
763-4-5 S-1	123	136	115	10-70	20	100	5,0	64	773-4-5
763-4-7 S-1	123	176	115	10-70	20	140	6,0	64	773-4-7

#### Type 773 Double carbon brush holder

The carbon brush holders shown are used to transmit power to the slip-ring. They are supplied in three sizes, including mounting bolts.



Туре	a [mm]	b [mm]	c [mm]	d [mm]	up to a max. [A]	Number of contacts	Weight ca. [kg]
773-2-3	60	141	10	17	20	3	0,3
773-3-3	78	162	12	23	32	3	0,4
773-4-3	94	162	12	26	64	3	0,5
773-4-5	94	213	12	26	64	5	0,8
773-4-7	94	254	12	26	64	7	1,1

