



Bearings for
precision rotary axes
and automation



www.myonic.com

Ultra Precision Made by myonic

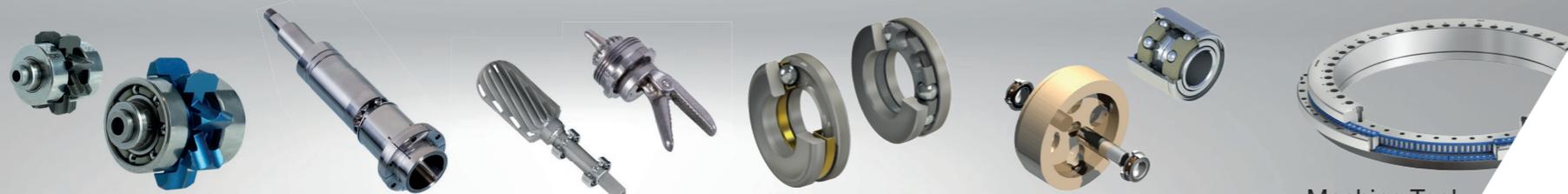
Across our three locations in Germany and the Czech Republic, we provide all the expertise required for the development and manufacture of ball and roller bearings.

Ultra precision machine tools are used in our fully air-conditioned production facilities. Combined with modern processes, we produce bearings of the highest quality.

The close proximity between development engineers, test benches and production enables optimum know-how transfer.

Short distances increase flexibility and the necessary speed to quickly realise perfect solutions for our customers.

myonic produces products for the...



Dental Technology

X-ray Technology

Medical Technology

Industry & Green

Aerospace

Machine Tool
Technology

...and much more



MinebeaMitsumi Group

The Japanese **MinebeaMitsumi Inc.** is a global market leader in the manufacture of miniature ball bearings and high-precision components for the telecommunication and aerospace sectors, as well as for the automobile and electrical industries.

myonic is an **independently operating company** within the group, but also profits from the good transnational collaboration inside the group.

These synergy effects enable us to provide our clients with extraordinary combinations of customized technical solutions, not to mention volume production.



Premium in development & production

Axial-radial bearing
AXRY-NGX/-EX



Axial-radial bearing
AXRY-NGS



Angular contact roller bearing
AXDR



Cross roller bearing
AXCR



Maximum rigidity for precise swivelling and positioning axes

AXRY-NGX or **AXRY-EX** bearings are bidirectional, bolt-on and plug-and-play precision bearing units for highly rigid applications, such as for rotary tables or milling heads.

The bearing absorbs axial and radial forces as well as tilting moments without play.

AXRY-NGX or **AXRY-EX** bearings offer optimum rigidity and service life in the available installation space.

Maximum speed for high-speed axes

AXRY-NGS bearings are bidirectional, bolt-on and ready-to-fit precision bearing units for high-rigidity, high-speed applications, such as for combined milling/turning tables or vertical lathes.

The bearing absorbs axial and radial forces as well as tilting moments without play.

AXRY-NGS bearings offer optimum speed, rigidity and service life in the available installation space.

Angular contact roller bearings for space-optimised and rigid axes

AXDR angular contact roller bearings are bidirectional, bolt-on and ready-to-fit precision bearing units for applications with high rigidity requirements, such as rotary tables or milling heads. The bearing can support both axial and radial forces as well as tilting moments without play.

A major advantage is the smooth running: The rolling element contact is not impeded in any area, as the raceways are homogeneously designed. This prevents premature wear and guarantees a long service life with smooth operation.

Cross roller bearings for compact axes

AXCR cross roller bearings consist of an inner and outer ring, cylindrical rollers and spacers. Due to their compact design, they are often used as swivel bearings in confined installation spaces. Typical applications include milling heads, swivelling axes or robots, but also industrial applications with increased requirements for running accuracy.

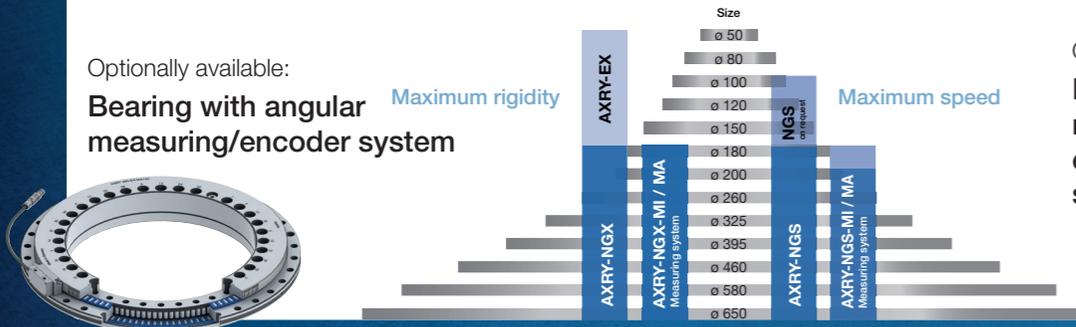
There is a wide range of different designs of cross roller bearings on the market. myonic focusses on bolt-on designs and special solutions.

Optionally available:

Bearing with angular measuring/encoder system

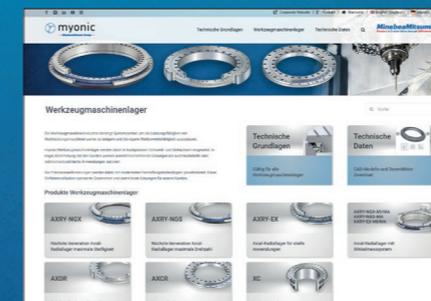
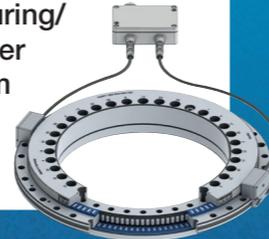
Maximum rigidity

Maximum speed



Optionally available:

Bearing with angular measuring/encoder system



myonic
Product Website
www.product-myonic.com



In our new product database you will find all the important data online.

Innovations & Concepts

Cost-optimised bearing solutions

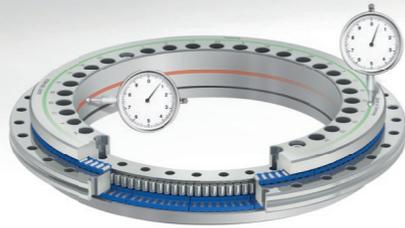


Increasing cost pressure requires a consistent review of all **potential savings**.

In many applications, bearing solutions are still used that are oversized or are not required in terms of their accuracy.

myonic offers **cost-optimised alternatives** - without compromising on production quality or process reliability.

Ultra-restricted Running accuracies



myonic bearings stand for the highest quality and precision.

The dimensional and running accuracies correspond to the known catalogue values and can be restricted further if required.

For applications in which even this accuracy is not sufficient, myonic offers the option of **specifying significantly tighter radial and axial run-out tolerances**.

If your requirements go to the limits of what is technically feasible, we deliver solutions with **tolerances on the edge of what can be measured** - for maximum precision without compromise.

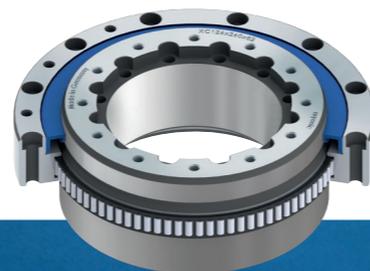
Bearings for increased rigidity requirements



If the requirements for **rigidity are not met by standard bearings** on the market, myonic offers customised solutions that meet the highest demands.

For example, **a bearing with a reinforced inner and outer ring** can be used to increase rigidity at just one bearing point.

Alternatively, our **radially preloaded, bolt-on floating bearing** is a simple and highly effective solution for increasing rigidity.



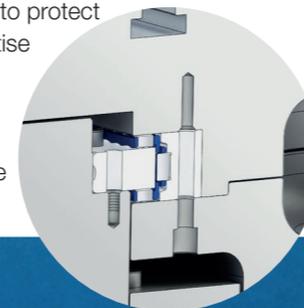
Modular integration into the design



The integration of the bearing into the surrounding structure offers many advantages.

In addition to a compact, space-saving design, costs can also be saved by eliminating unnecessary components. The solution from myonic for **integrating your components** into the bearing system provides the ideal modular system for this.

You have the freedom to integrate one or both axial raceways into your design - or to use the bearing purely as a **radial non-locating bearing**. This allows you to protect your expertise and save installation space and costs at the same time.



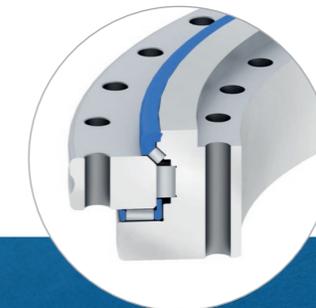
Space-saving solutions



Installation space is a valuable commodity - especially in **compact designs** such as milling heads.

It is therefore crucial to minimise interference contours and make optimum use of the available installation space. With our new bearing concept, we **offer maximum rigidity with reduced space requirements**.

Where previously lower-performance bearing solutions were used, the myonic concept significantly increases rigidity - without taking up additional installation space.



3-roller bearing in cross roller bearing design



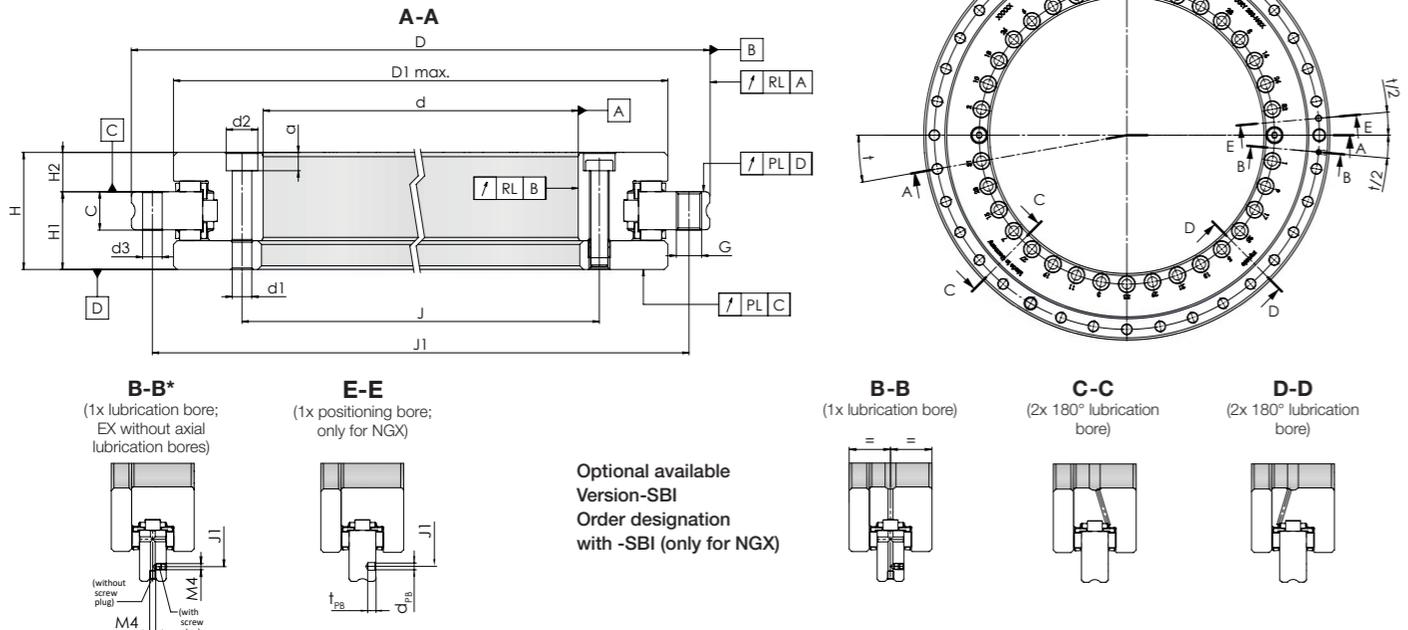
myonic has succeeded in combining the higher performance of an **axial radial bearing with the compact design** of classic cross roller bearings.

Thanks to this combination, our new bearing concept can be used wherever cross roller bearings are used today - without any design changes.

The result: significantly higher rigidity with a consistently compact design.



Dimension table AXRY-NGX/-EX



Optional available
Version-SBI
Order designation
with -SBI (only for NGX)

*Note: In the case of axial lubrication, please remove the screw plug and seal off the radial lubrication!

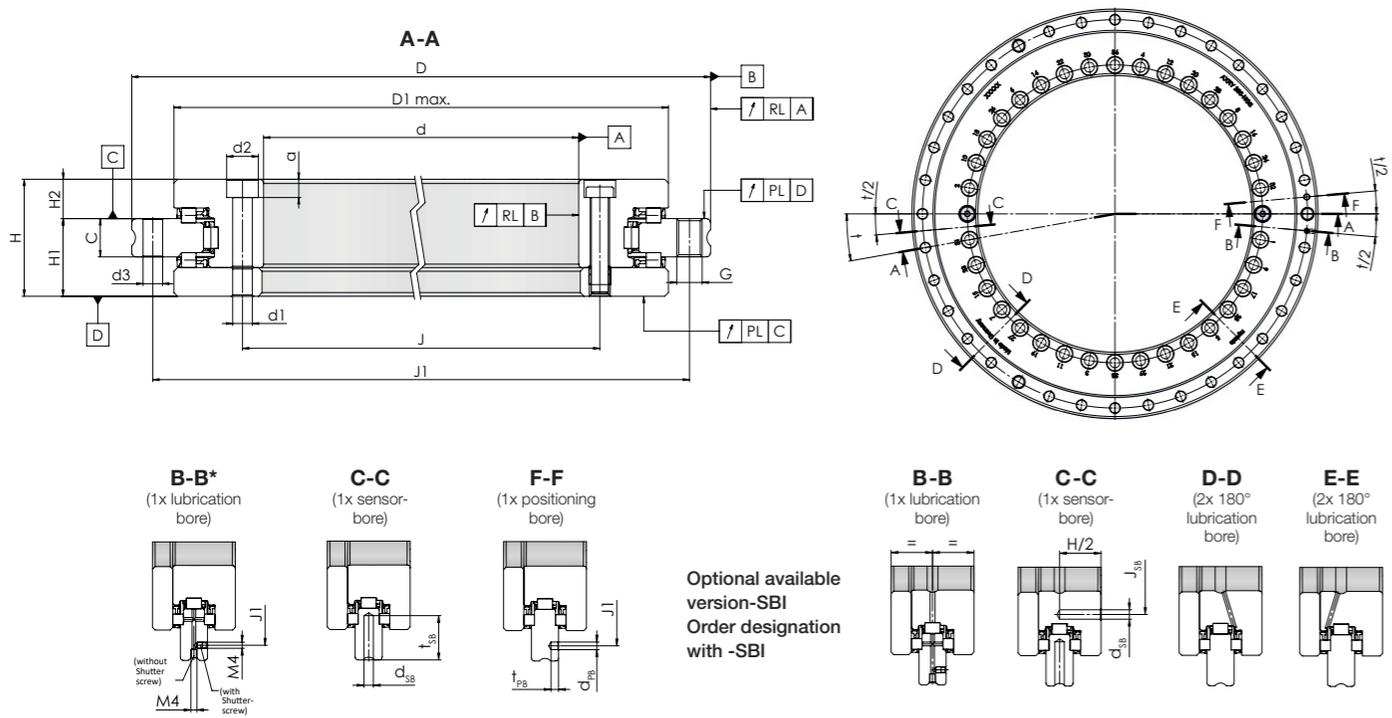
Footnotes: see www.product-myonic.com

Designation	Fixing holes									Positioning bore		
	Inner ring				Outer ring				Number x Pitch	Screw tightening torque	Diameter	Depth
	d1	d2	a	Number ³⁾	d3	Number ³⁾	Extraction thread					
		G	Number	n x t ¹⁾	M _s ²⁾ [Nm]	d _{PB} [mm]	t _{PB} [mm]					
AXRY 50-EX	5,6	-	-	12	5,6	12	M5	2	12 x 30°	8,5	-	-
AXRY 80-EX ⁴⁾	5,6	10	4,4	12	4,6	12	M5	2	12 x 30°	8,5 / 4,5	-	-
AXRY 100-EX ⁴⁾	5,6	10	5,4	16	5,6	15	M6	3	18 x 20°	8,5	-	-
AXRY 120-EX	7	11	6,4	22	7	21	M8	3	24 x 15°	14	-	-
AXRY 150-EX	7	11	6,4	34	7	33	M8	3	36 x 10°	14	-	-
AXRY 180-NGX	7	11	6,4	46	7	45	M8	3	48x 7,5°	14	5	5
AXRY 200-NGX	7	11	6,4	46	7	45	M8	3	48x 7,5°	14	5	5
AXRY 260-NGX	9,3	15	8,6	34	9,3	33	M12	3	36x 10°	34	5	5
AXRY 325-NGX ⁴⁾	9,3	15	8,6	34	9,3	33	M12	3	36x 10°	34	5	5
AXRY 395-NGX	9,3	15	8,6	46	9,3	45	M12	3	48x 7,5°	34	5	5
AXRY 460-NGX	9,3	15	8,6	46	9,3	45	M12	3	48x 7,5°	34	5	5
AXRY 580-NGX	11,4	18	10,6	46	11,4	42	M12	6	48x 7,5°	68	8	8
AXRY 650-NGX	14	20	12,6	46	14	42	M12	6	48x 7,5°	116	10	10

Designation	Mass [kg]	Dimensions [mm]														
		standard														
		d	tol. d	D	tol. D	H	H1	tol. H1	tol. H1	H2	tol. H2	tol. H2	C	D1	J	J1
AXRY 50-EX	1,6	50	-0,008	126	-0,011	30	20	±0,125	±0,025	10	-	±0,02	10	105	63	116
AXRY 80-EX ⁴⁾	2,4	80	-0,009	146	-0,011	35	23,35	±0,150	±0,025	11,65	-	±0,02	12	130	92	138
AXRY 100-EX ⁴⁾	4,1	100	-0,010	185	-0,015	38	25	±0,175	±0,025	13	-	±0,02	12	161	112	170
AXRY 120-EX	5,3	120	-0,010	210	-0,015	40	26	±0,175	±0,025	14	-	±0,02	12	184	135	195
AXRY 150-EX	6,2	150	-0,013	240	-0,015	40	26	±0,175	±0,03	14	-	±0,02	12	214	165	225
AXRY 180-NGX	7,1	180	-0,013	280	-0,018	43	29	±0,03	-	14	±0,025	-	15	244	194	260
AXRY 200-NGX	9,1	200	-0,015	300	-0,018	45	30	±0,03	-	15	±0,025	-	15	274	215	285
AXRY 260-NGX	17,5	260	-0,018	385	-0,020	55	36,5	±0,04	-	18,5	±0,025	-	18	345	280	365
AXRY 325-NGX ⁴⁾	24,5	325	-0,023	450	-0,023	60	40	±0,05	-	20	±0,025	-	20	415	342	430
AXRY 395-NGX	32,2	395	-0,023	525	-0,028	65	42,5	±0,05	-	22,5	±0,025	-	20	486	415	505
AXRY 460-NGX	44,8	460	-0,023	600	-0,028	70	46	±0,06	-	24	±0,03	-	22	560	482	580
AXRY 580-NGX	86,0	580	-0,025	750	-0,035	90	60	±0,25	±0,075	30	±0,25	±0,03	30	700	610	720
AXRY 650-NGX	165,2	650	-0,038	870	-0,050	122	78	±0,25	±0,1	44	±0,25	±0,03	34	800	680	830

Designation	Load ratings				Rigidity of bearing position			Limiting speed ⁹⁾	Bearing frictional torque ⁶⁾	Axial and Radial runout	
	Axial		Radial		Axial	Radial	Tilting			standard	restricted
	dyn. C _a [kN]	stat. C _{0a} [kN]	dyn. C _r [kN]	stat. C _{0r} [kN]	C _{ai} [kN/μm]	C _{ri} [kN/μm]	C _{ti} [kNm/mrad]	n _G [min ⁻¹]	M _B [Nm]	PL & RL [μm]	PL & RL [μm]
AXRY 50-EX	33,5	161,6	22,7	39,2	2,4	1,2	2,5	2000	1,5	2	1
AXRY 80-EX ⁴⁾	39,5	215,4	51	104,9	3	1,9	4,9	1500	2	3	1,5
AXRY 100-EX ⁴⁾	89,2	560,6	56,3	126,9	4,1	2,4	10	1300	2	3	1,5
AXRY 120-EX	95,3	640,6	62,1	152,9	4,8	3	16,3	1150	4,5	3	1,5
AXRY 150-EX	100,4	720,7	68,4	185	5,4	3,7	25,1	1000	7	3	1,5
AXRY 180-NGX	139,3	755,0	99,4	200,3	8,1	3,3	51,1	600	5	4	2
AXRY 200-NGX	151,0	871,2	122,1	273,9	8,0	4,1	62,6	450	6	4	2
AXRY 260-NGX	220,1	1520,6	138,3	349,0	12,2	5,1	153,5	300	9	6	3
AXRY 325-NGX ⁴⁾	249,3	1900,8	181,7	531,4	15,2	7,2	272,1	200	13	6	3
AXRY 395-NGX	275,7	2281,0	199,2	633,8	18,3	8,4	459,4	200	19	6	3
AXRY 460-NGX	299,5	2661,1	232,5	739,0	21,9	8,6	736,9	150	25	6	3
AXRY 580-NGX	584,6	4457,4	284,5	867,2	22,9	8,8	1207,0	80	60	10	5
AXRY 650-NGX	1010,7	7682,4	459,6	1317,1	27,1	9,7	1880,1	70	70	10	5

Dimension table AXRY-NGS



Optional available version-SBI
Order designation with -SBI

*Note: In the case of axial lubrication, please remove the screw plug and seal off the radial lubrication!

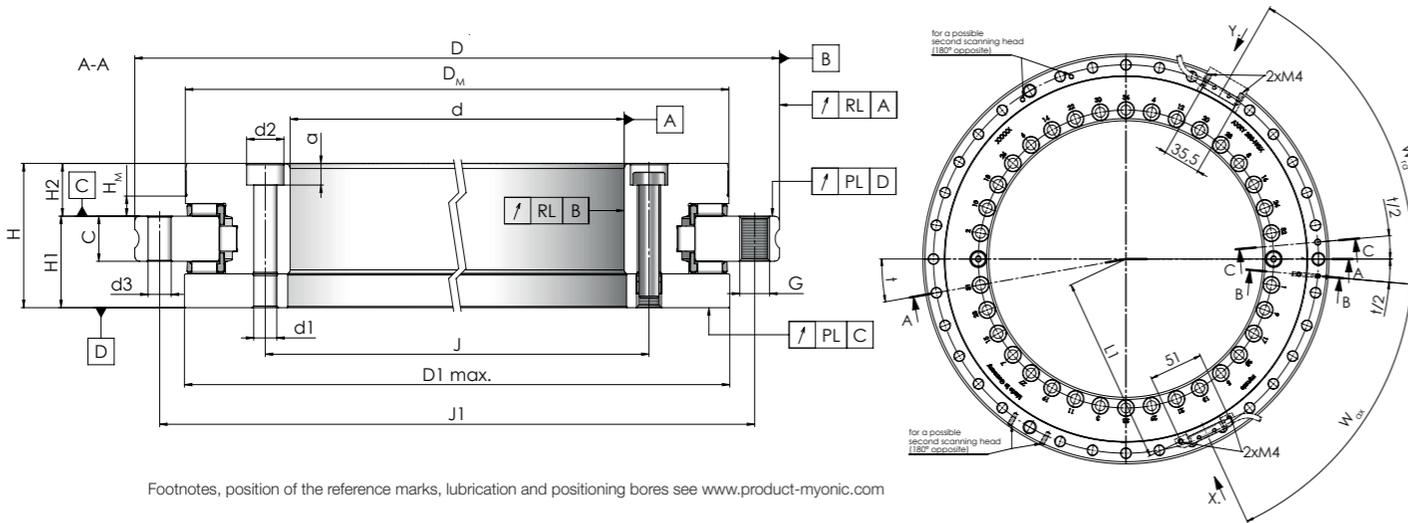
Footnotes: see www.product-myonic.com

Designation	Fixing holes								Positioning bore		Sensor bore				
	Inner ring				Outer ring				Number x Pitch	Screw tightening torque	Diameter	Depth	Pitch circle diameter	Diameter	Depth
	d1	d2	a	Number ³⁾	d3	Number ³⁾	Extraction thread								
						G	Number	n x t ¹⁾	M _A ²⁾ [Nm]	d _{PB} [mm]	t _{PB} [mm]	J _{SB} [mm]	d _{SB} [mm]	t _{SB} [mm]	
AXRY 120-NGS	7	11	6,4	22	7	21	M8	3	24x 15°	14	5	5	140,8	3,2	21
AXRY 180-NGS	7	11	6,4	46	7	45	M8	3	48x 7,5°	14	5	5	204,5	3,2	24,7
AXRY 200-NGS	7	11	6,4	46	7	45	M8	3	48x 7,5°	14	5	5	228	3,2	21,4
AXRY 260-NGS	9,3	15	8,6	34	9,3	33	M12	3	36x 10°	34	5	5	290,8	6,2	29
AXRY 325-NGS ⁴⁾	9,3	15	8,6	34	9,3	33	M12	3	36x 10°	34	5	5	360,8	6,2	26,6
AXRY 395-NGS	9,3	15	8,6	46	9,3	45	M12	3	48x 7,5°	34	5	5	431,2	6,2	28,8
AXRY 460-NGS	9,3	15	8,6	46	9,3	45	M12	3	48x 7,5°	34	5	5	503,8	6,2	29,1
AXRY 580-NGS	11,4	18	10,6	46	11,4	42	M12	6	48x 7,5°	68	8	8	628,6	6,2	39,7
AXRY 650-NGS	14	20	12,6	46	14	42	M12	6	48x 7,5°	116	10	10	706,2	6,2	56,9

Designation	Mass [kg]	Dimensions [mm]															
		d		D		H		H1		H2		C		D1		J	
		Tol. d	Tol. D	Tol. H	Tol. H1	Tol. H2	Tol. C	Tol. D1	Tol. J	Standard	restricted	Standard	restricted	max	Standard	restricted	
AXRY 120-NGS	4,5	120	-0,010	210	-0,015	40	26	± 0,025	-	14	± 0,2	± 0,025	12	184	135	195	
AXRY 180-NGS	7	180	-0,013	280	-0,018	43	29	± 0,03	-	14	± 0,2	± 0,025	15	244	194	260	
AXRY 200-NGS	9,0	200	-0,015	300	-0,018	45	30	± 0,03	-	15	± 0,2	± 0,025	15	274	215	285	
AXRY 260-NGS	17,1	260	-0,018	385	-0,020	55	36,5	± 0,04	-	18,5	± 0,2	± 0,025	18	345	280	365	
AXRY 325-NGS ⁴⁾	23,9	325	-0,023	450	-0,023	60	40	± 0,05	-	20	± 0,2	± 0,025	20	415	342	430	
AXRY 395-NGS	31,6	395	-0,023	525	-0,028	65	42,5	± 0,05	-	22,5	± 0,2	± 0,025	20	486	415	505	
AXRY 460-NGS	42,4	460	-0,023	600	-0,028	70	46	± 0,06	-	24	± 0,2	± 0,03	22	560	482	580	
AXRY 580-NGS	84,8	580	-0,025	750	-0,035	90	60	± 0,25	± 0,075	30	± 0,3	± 0,03	30	700	610	720	
AXRY 650-NGS	162,3	650	-0,038	870	-0,050	122	78	± 0,25	± 0,1	44	± 0,3	± 0,03	34	800	680	830	

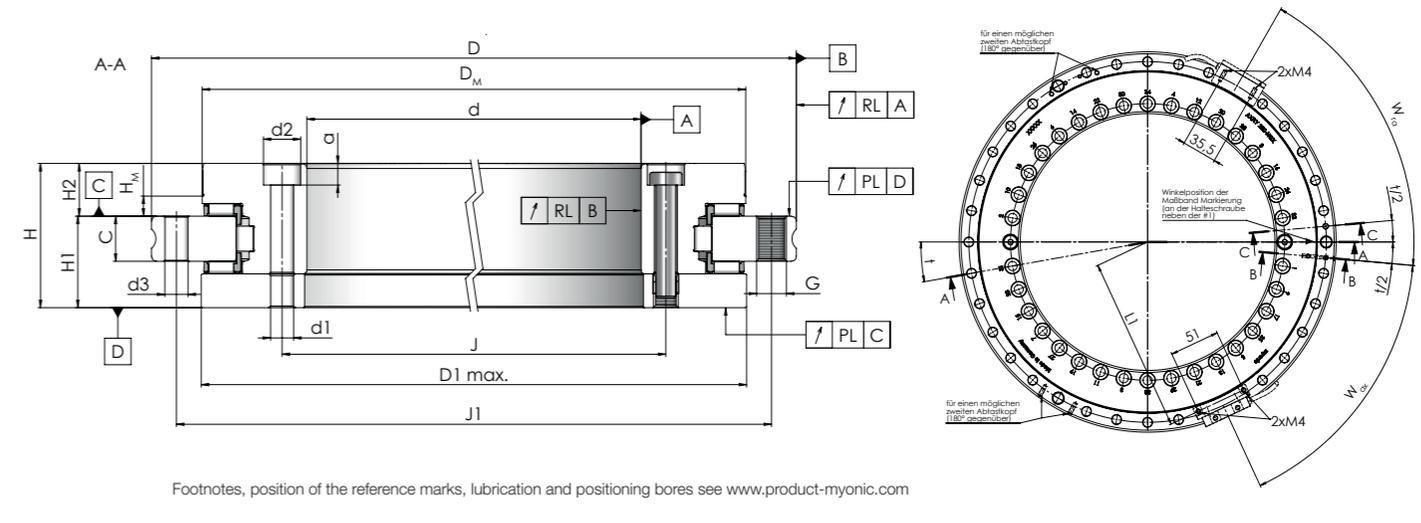
Designation	Load ratings				Rigidity of the bearing position			Limiting speed ⁵⁾	Axial runout & radial runout		Mass moment of inertia	
	Axial		Radial		Axial	Radial	Tilting		standard	restricted	rotating outer ring	rotating inner ring
	dyn. C _a [kN]	stat. C _{0a} [kN]	dyn. C _r [kN]	stat. C _{0r} [kN]	C _{ax} [kN/μm]	C _{ri} [kN/μm]	C _{ti} [kNm/mrad]	n _c [min ⁻¹]	PL & RL [μm]	PL & RL [μm]	M _{MA} [kg * cm ²]	M _{MI} [kg * cm ²]
AXRY 120-NGS	100,4	484,7	40,1	82,8	4,1	1,9	14,2	2150	3	1,5	93	115
AXRY 180-NGS	142,6	751,5	88,0	200,3	6,0	3,2	38,8	1750	4	2	431	308
AXRY 200-NGS	159,2	901,8	93,5	226,2	6,6	3,5	53,1	1600	4	2	444	602
AXRY 260-NGS	178,7	1127,3	110,1	303,5	8,8	4,6	114,8	1200	6	3	1646	1787
AXRY 325-NGS ⁴⁾	188	1277,6	115,6	345,4	10,3	5,2	193,4	1000	6	3	2787	4035
AXRY 395-NGS	212,5	1578,2	154,1	529,8	12,9	7,2	337,5	800	6	3	4786	7470
AXRY 460-NGS	190,9	1427,9	177,1	605,6	12,9	7,5	455,1	700	6	3	8130	14695
AXRY 580-NGS	484,7	3492,7	251,6	867,2	16,9	8,8	917,2	500	10	5	28467	42140
AXRY 650-NGS	816,3	5829,1	406,6	1317,1	20,3	9,8	1451,2	400	10	5	68641	97690

Dimension table AXRY-NGX-MI



Footnotes, position of the reference marks, lubrication and positioning bores see www.product-myonic.com

Dimension table AXRY-NGX-MA



Footnotes, position of the reference marks, lubrication and positioning bores see www.product-myonic.com

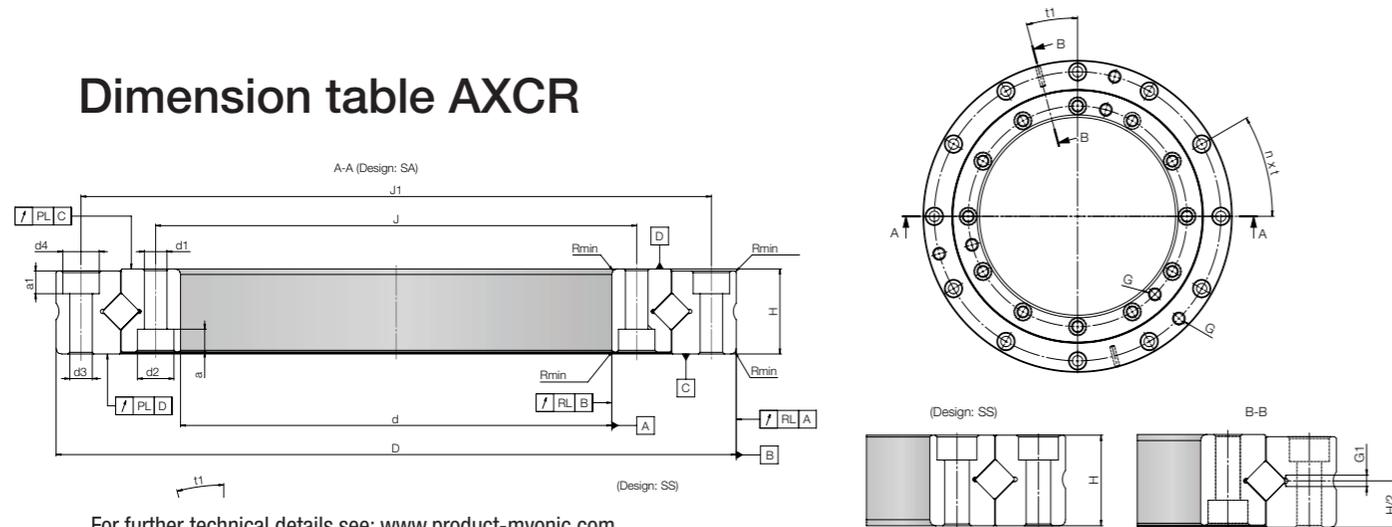
Designation	Deviations from the standard (for further details see NGX)								Measuring ring		
	H	H2	D _M	H _M	Fastening thread for measuring head				Grad.mark./ 360°		
					L1	W _{ax}	L2	W _{ra}	at 500 μm-Division	at ±3μm	at ±5μm
AXRY 180-NGX-MI	50	21	245,0	6	127,0	56,25°	7,5	63,75°	1536	5,1"	8,4"
AXRY 200-NGX-MI	51	21	274,2	6	141,6	56,25°	7,5	63,75°	1720	4,5"	7,5"
AXRY 260-NGX-MI	57,5	21	344,3	8	177,2	60°	9	65°	2160	3,6"	6,0"
AXRY 325-NGX-MI ⁴⁾	61	21	415,0	8	212,5	55°	10	65°	2604	3,0"	5,0"
AXRY 395-NGX-MI	65	22,5	484,4	8	249,0	60°	10	63,75°	3040	2,5"	4,2"
AXRY 460-NGX-MI	70	24	558,2	10	285,6	56,25°	11	63,75°	3504	2,2"	3,7"
AXRY 580-NGX-MI	90	30	700,9	15	355,0	56,25°	15	63,75°	4400	1,8"	3,0"
AXRY 650-NGX-MI	122	44	796,4	21	404,7	56,25°	17	63,75°	5000	1,6"	2,6"

Other sizes and designs on request

Designation	Deviations from the standard (for further details see NGX)								Measuring ring		
	H	H2	D _M	H _M	Fastening thread for measuring head				Grad.mark./ 360		
					L1	W _{ax}	L2	W _{ra}	at 1000 μm-Division	at ±3μm	at ±5μm
AXRY 180-NGX-MA	50	21	245,1	6	127,0	56,25°	7,5	63,75°	768	5,1"	8,4"
AXRY 200-NGX-MA	51	21	274,3	6	141,6	56,25°	7,5	63,75°	860	4,5"	7,5"
AXRY 260-NGX-MA	57,5	21	346,9	6	177,2	60°	9	65°	1088	3,6"	6,0"
AXRY 325-NGX-MA ⁴⁾	61	21	415,1	6	212,5	55°	10	65°	1302	3,0"	5,0"
AXRY 395-NGX-MA	65	22,5	487,7	6	249,0	60°	10	63,75°	1530	2,5"	4,2"
AXRY 460-NGX-MA	70	24	560,9	9	285,6	56,25°	11	63,75°	1760	2,2"	3,7"
AXRY 580-NGX-MA	90	30	699,7	9	355,0	56,25°	15	63,75°	2196	1,8"	3,0"
AXRY 650-NGX-MA	122	44	799,0	21	404,7	56,25°	17	63,75°	2508	1,6"	2,6"

Other sizes and designs on request

Dimension table AXCR



For further technical details see: www.product-myonic.com

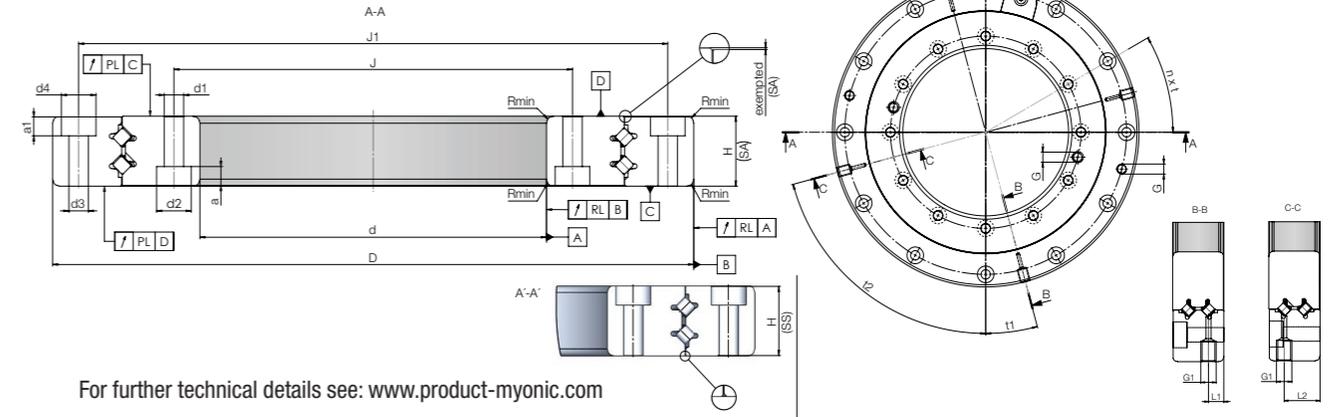
Designation	Mass	Dimensions [mm]											
		d	Δd	D	ΔD	SA	H	SS	ΔH	J	J1	t1	G1
AXCR 80-U	2,6	80	-0,009	165	-0,013	22	21,5	+/- 0,150	97	148	18°	3,1	2
AXCR 90-U	4,9	90	-0,010	210	-0,015	25	24,5	+/- 0,150	112	187	15°	3,1	2
AXCR 115-U	6,9	115	-0,010	240	-0,015	28	27,5	+/- 0,150	139	217	15°	3,1	2
AXCR 160-U	11,8	160	-0,013	295	-0,018	35	34,5	+/- 0,200	184	270	15°	6	2
AXCR 210-U	22,0	210	-0,015	380	-0,020	40	39,5	+/- 0,200	240	350	11,25°	6	2
AXCR 270-U	14,9	270	-0,018	400	-0,020	30	29,5	+/- 0,250	298	376	11,25°	6	2
AXCR 350-U	42,6	350	-0,023	540	-0,028	45	44,5	+/- 0,300	385	505	7,5°	6	2
AXCR 360-U	35,8	360	-0,023	540	-0,028	40	39,5	+/- 0,300	395	510	7,5°	6	2

Other sizes and designs on request

Designation	Mass	Dimensions [mm]											
		d	Δd	D	ΔD	SA	H	SS	ΔH	J	J1	t1	G1
AXCR 130-S	3,3	130	0,025	205	-0,029	25,4	24,8	$\pm 0,200$	145	190	15°	3,1	2
AXCR 150-S	3,7	150	0,025	225	-0,029	25,4	24,8	$\pm 0,200$	165	210	11,25°	3,1	2
AXCR 180-S	4,3	180	0,025	255	-0,032	25,4	24,8	$\pm 0,200$	195	240	9°	3,1	2
AXCR 220-S	5,1	220	0,029	295	-0,032	25,4	24,8	$\pm 0,200$	235	280	7,5°	3,1	2
AXCR 280-S	6,3	280	0,032	355	-0,036	25,4	24,8	$\pm 0,250$	295	340	6,43°	3,1	2

Other sizes and designs on request

Dimension table AXDR



For further technical details see: www.product-myonic.com

Designation	Mass	Dimensions [mm]																
		d	Δd	D	ΔD	SA	H	ΔH	SS	H	ΔH	J	J1	t1	t2	G1	L1	L2
AXDR 80VX	1,6	80	-0,009	146	-0,011	20	-0,075	19,8	$\pm 0,075$	93	133	22,5°	67,5°	M6	6	14		
AXDR 100VX	2,7	100	-0,010	185	-0,015	20	-0,075	19,8	$\pm 0,075$	115	170	15°	75°	M6	6	14		
AXDR 120VX	4,9	120	-0,010	210	-0,015	30	-0,075	29,8	$\pm 0,075$	138	192	15°	75°	M6	8	22		
AXDR 160VX	11,8	160	-0,013	295	-0,018	35	-0,1	34,8	$\pm 0,1$	184	270	15°	75°	M6	10,5	24,5		
AXDR 200VX	11,2	200	-0,015	300	-0,018	40	-0,1	39,8	$\pm 0,1$	220	280	9°	81°	G1/8	12	28		
AXDR 210VX	21,9	210	-0,015	380	-0,020	40	-0,1	39,8	$\pm 0,1$	240	350	11,25°	78,75°	G1/8	12	28		
AXDR 325VX	26,4	325	-0,023	450	-0,023	50	-0,15	49,8	$\pm 0,15$	347	428	42°	54°	G1/8	15	35		
AXDR 350VX	46,8	350	-0,023	540	-0,028	50	-0,15	49,8	$\pm 0,15$	385	505	7,5°	82,5°	G1/8	15	35		

Other sizes and designs on request



myonic GmbH
Steinbeisstr. 4
88299 Leutkirch
Germany

Tel. +49 7561 978 0

info@myonic.com
www.myonic.com



MinebeaMitsumi
Passion to Create Value through Difference

Excellence in Bearings for your Applications

myonic
Product
Website



www.product-myonic.com

You can find all the important
data online in our new product
database.

