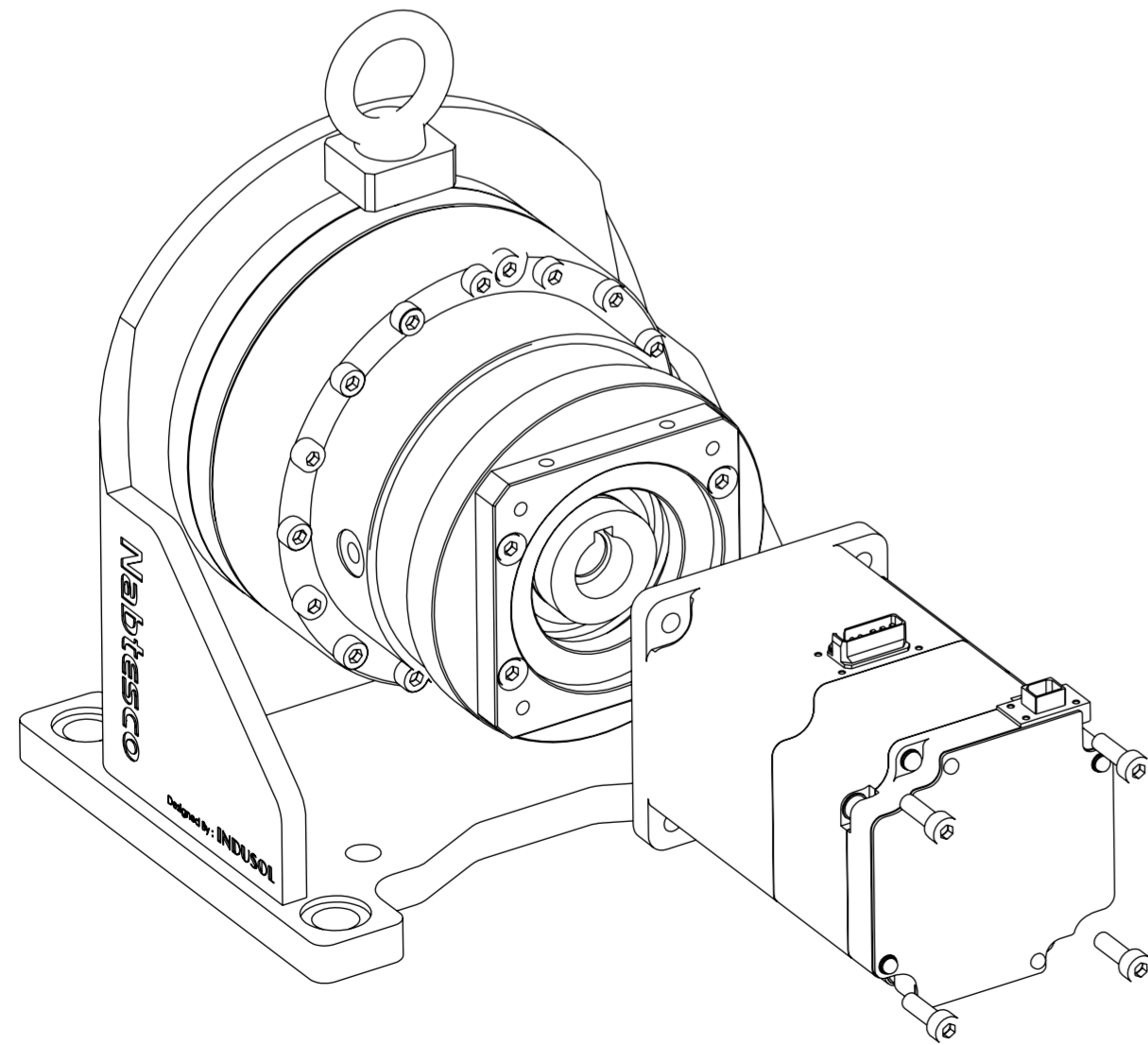




## IND-BS WISPY SERIES

- Compact in size
- Customized Gear ratio as per customer requirement\*\*
- Compatibility with any Servomotor
- Payload available from 250 kgs -500 kgs
- Foot mount positioner
- Solid shaft

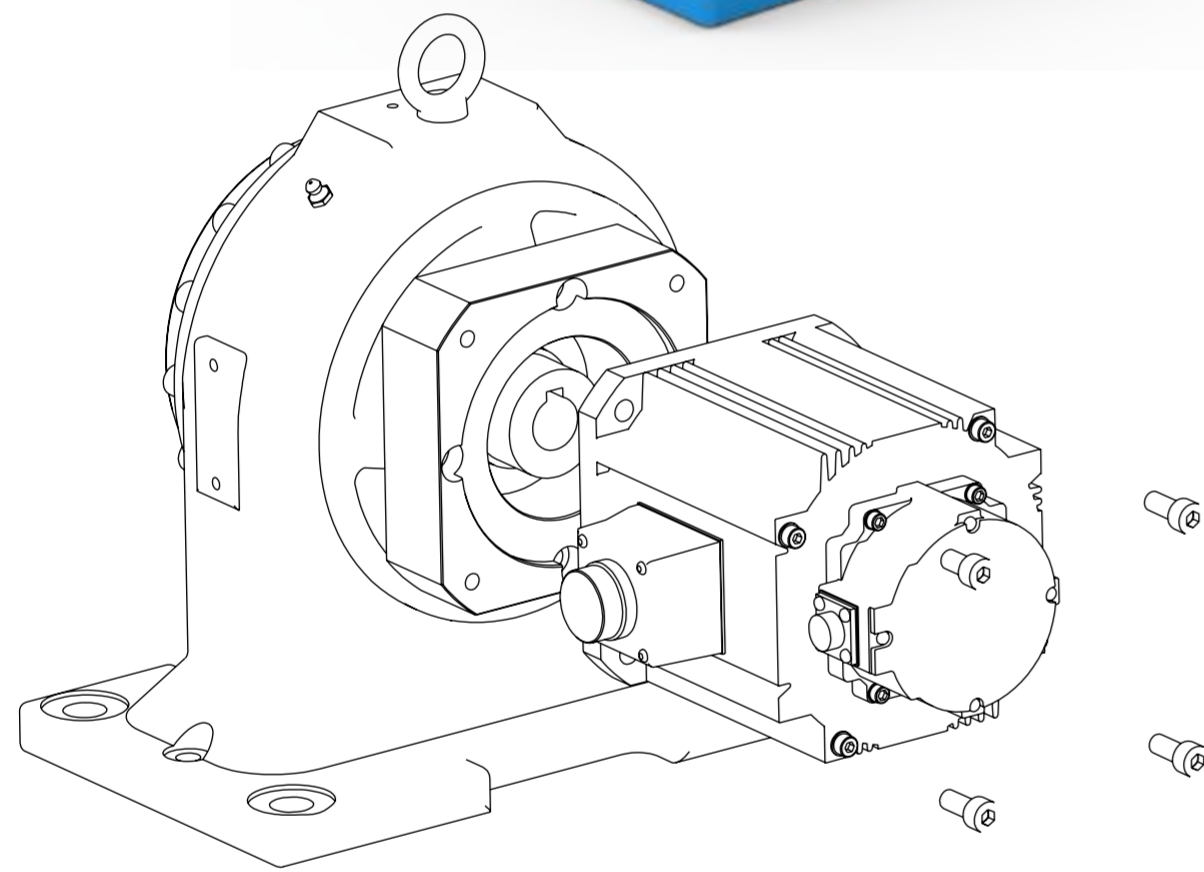


**Technical Specification**

S.No	Description	Unit	Specification	
1	IND	--	250	500
2	Max.Payload	Kg	250	500
3	Gear Ratio**	-	41~164	41~164
4	Rated Output Torque	Nm	277	465
5	Max.Servo motor Speed	RPM	3000	3000
6	Allowable Acce/Dece. Torque	Nm	612	1029
7	Allowable Moment	Nm	784	1660
8	Backlash	Arc.Min	<1.0	<1.0
9	Lost Motion	Arc.Min	<1.0	<1.0
10	Start up Efficiency	%	80	80
11	Welding Isolation	Optional	Yes	Yes

## IND-BS MEDIUM SERIES

- Compact in Size
- Foot Mount Postioner Solution
- Solid shaft

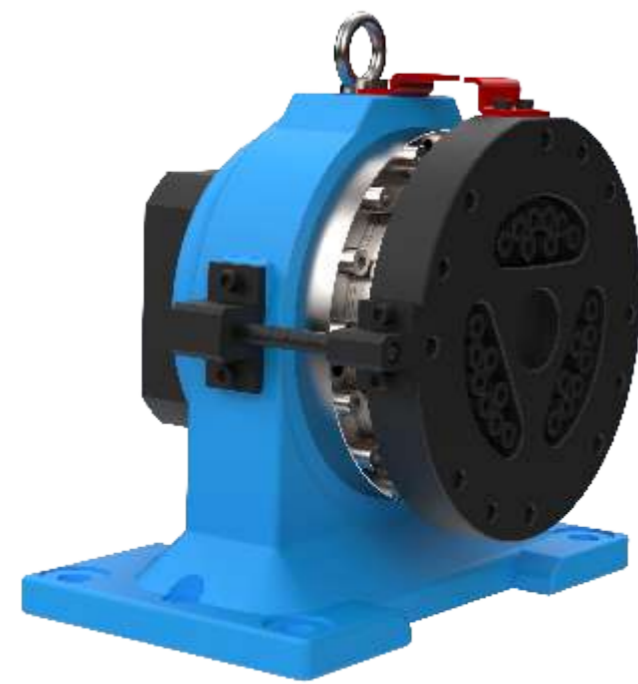


Specification Of Positioner - IND-BS-1000-IX-XX

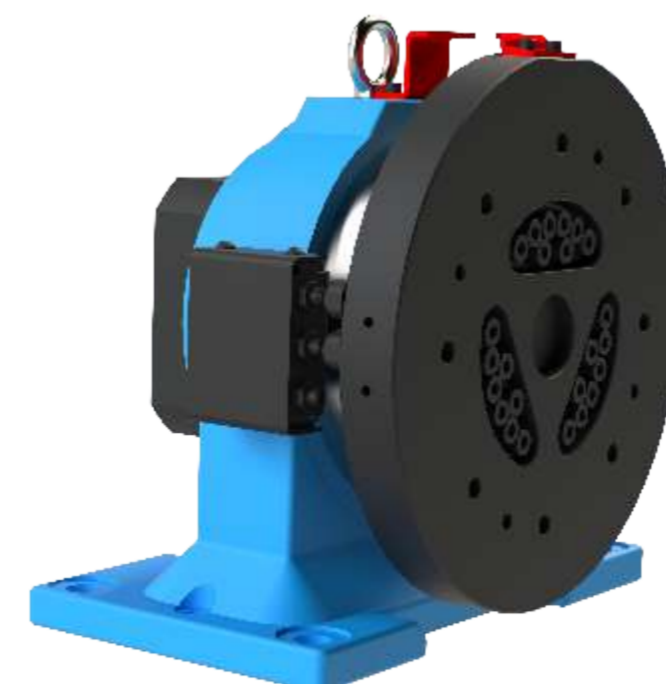
S.No	Description	Unit	Specification	
1	Part Code	-	IND-BS-0500-IX-XX	IND-BS-1000-IX-XX
2	Payload	Kg	500	1000
3	Gear Ratio	-	129	129
4	Max.Servomotor Speed	RPM	3000	3000
5	Rated Torque	Nm	784	784
6	Allowable Acce/Dece. Torque	Nm	1960	1960
7	Allowable Radial Load	N	14163	14163
8	Allowable Moment	Nm	2150	2150
9	Backlash	Arc.min	Less Than 1.0	Less Than 1.0
10	Lost Motion Max.	Arc.min	Less Than 1.0	Less Than 1.0
11	Isolation	Optional	Available	Available
12	Zeroing Pin	Optional	Available	Available
13	Proximity Sensor	Optional	Available	Available
14	Negative Terminal	Optional	Available	Available



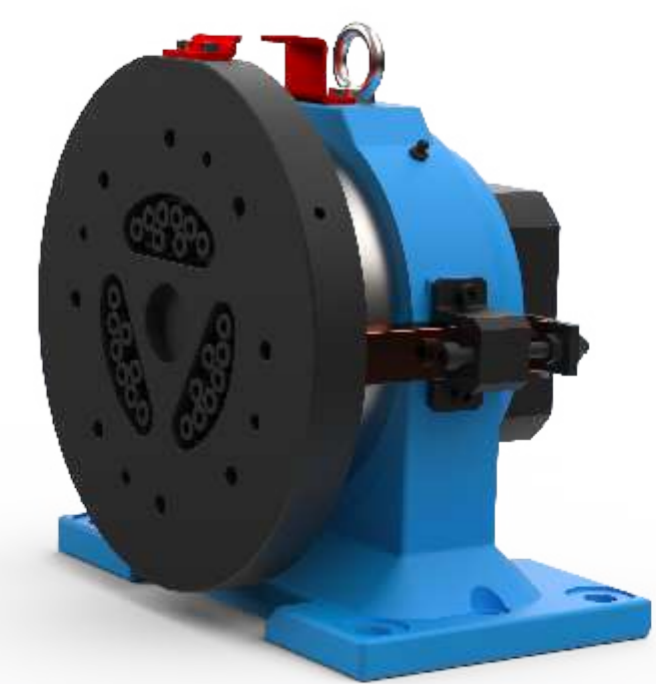
Option-A  
IND-BS-XXX-II-XX(With Isolation)



Option-B  
IND-BS-XXX-IP-XX(With Zeroing Pin)



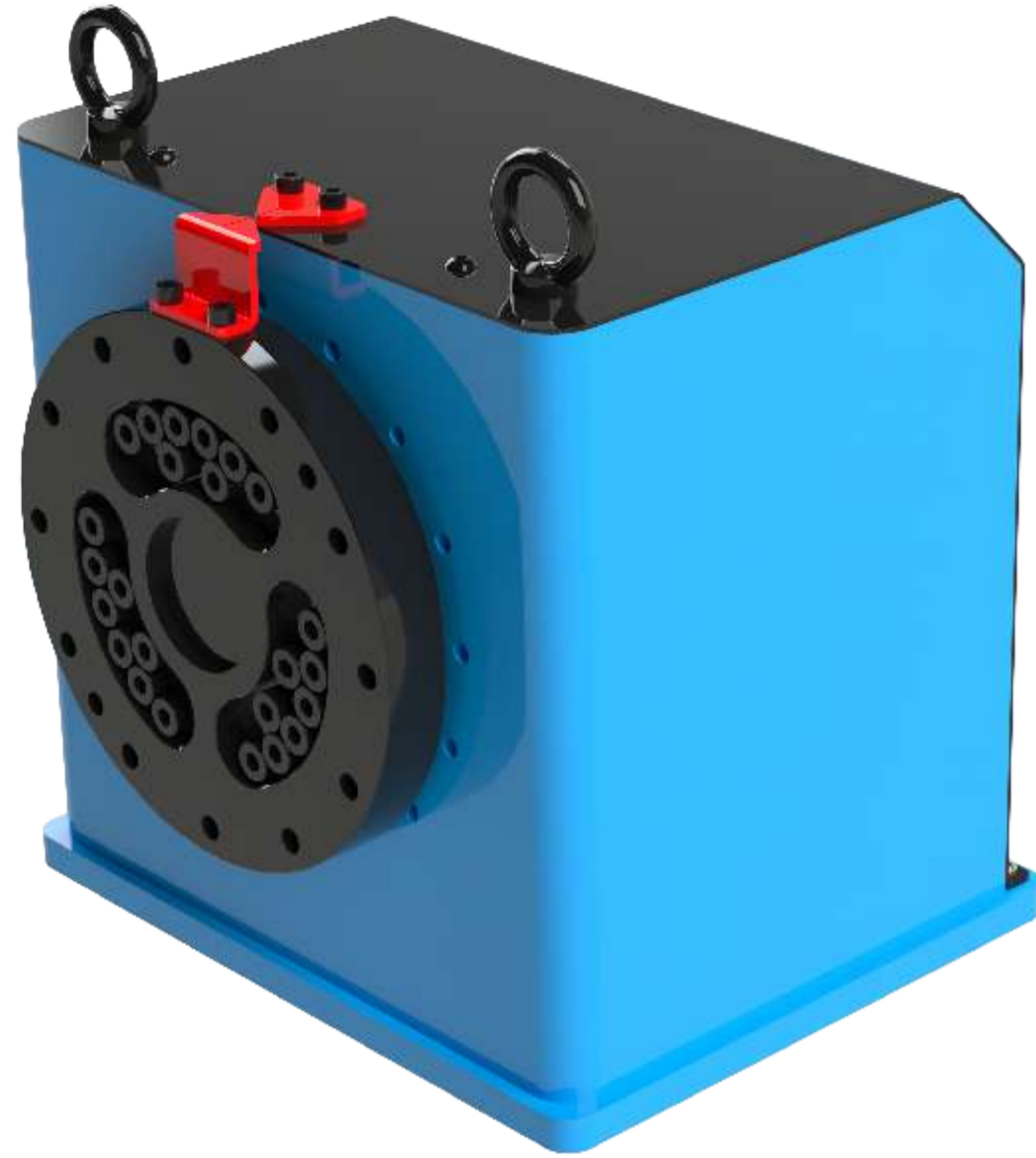
Option-C  
IND-BS-XXX-IL-XX(With Proximity Sensor)



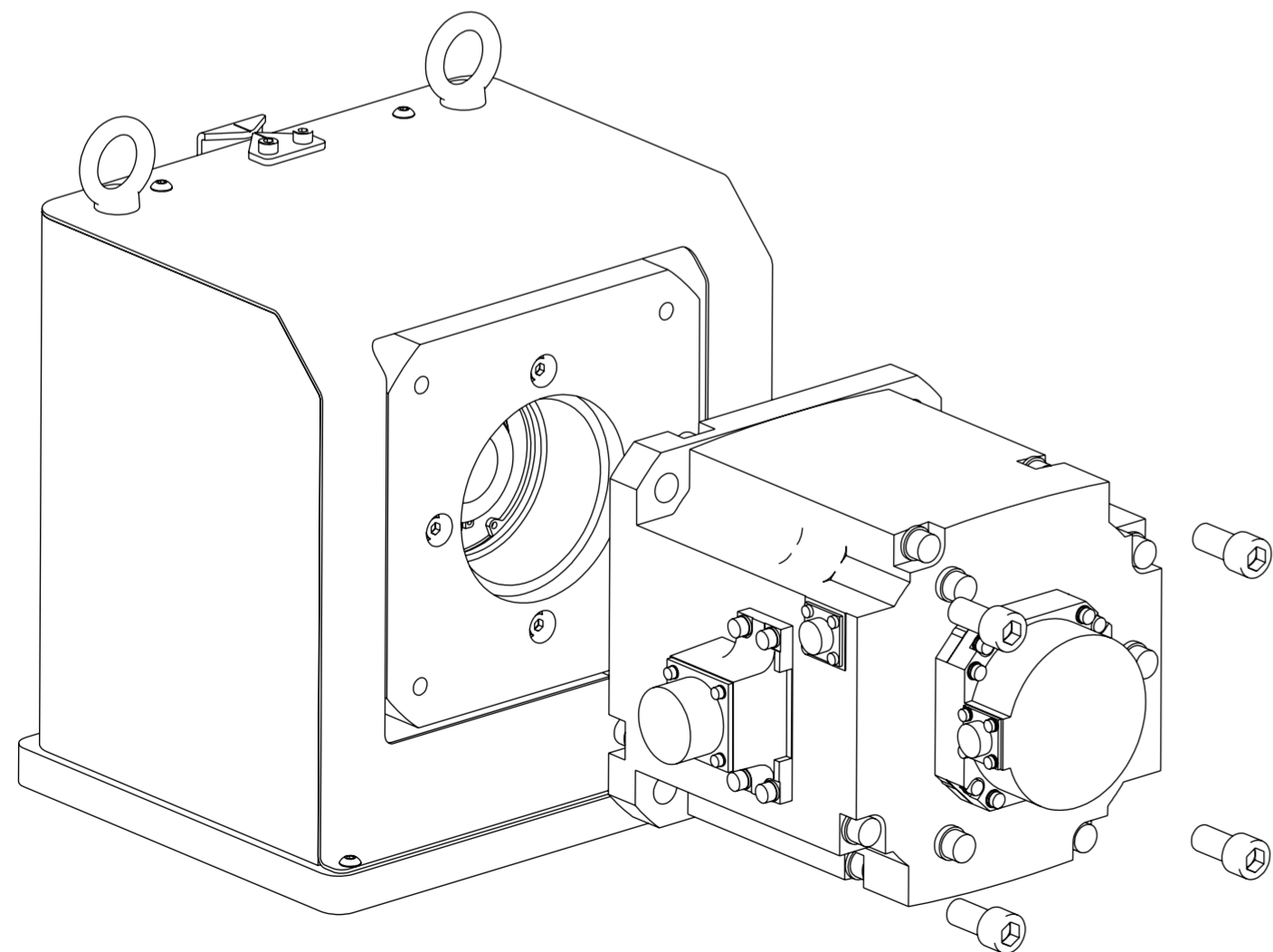
Option-D  
IND-BS-XXX-IN-XX(Negative Terminal)

## IND-BS HEAVY SERIES

- Compact in size
- Customized Gear ratio as per customer requirement\*\*
- Compatibility with any Servomotor
- Payload available from 1000 kgs -9000 kgs
- Foot mount positioner
- Solid shaft



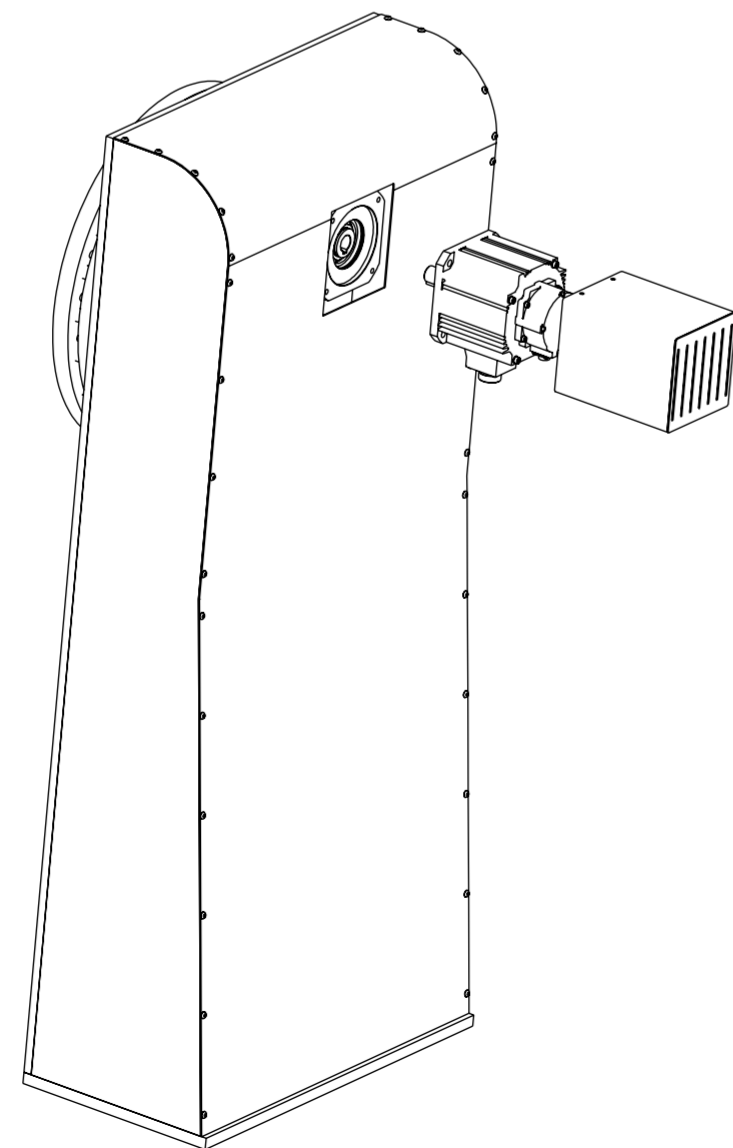
Technical Specification								
S.No	Description	Unit	Specification					
1	IND	--	1000	2000	4000	5000	7000	9000
2	Max.Payload	Kg	1000	2000	4000	5000	7000	9000
3	Gear Ratio**	-	41~171	41~201	75~185	81~193	105~203	Ask
4	Rated Output Torque	Nm	885	1807	4206	5534	7905	10163
5	Max.Servo motor Speed	RPM	3000	3000	3000	3000	3000	3000
6	Allowable Acce/Dece. Torque	Nm	1960	4000	9310	12250	17500	22500
7	Allowable Moment	Nm	2150	4000	7050	11000	15000	12740
8	Backlash	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
9	Lost Motion	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10	Start up Efficiency	%	80	80	80	80	80	80
11	Welding Isolation	Optional	Yes	Yes	Yes	Yes	Yes	Yes



## IND-BS/BH HEAVY WELDING SERIES



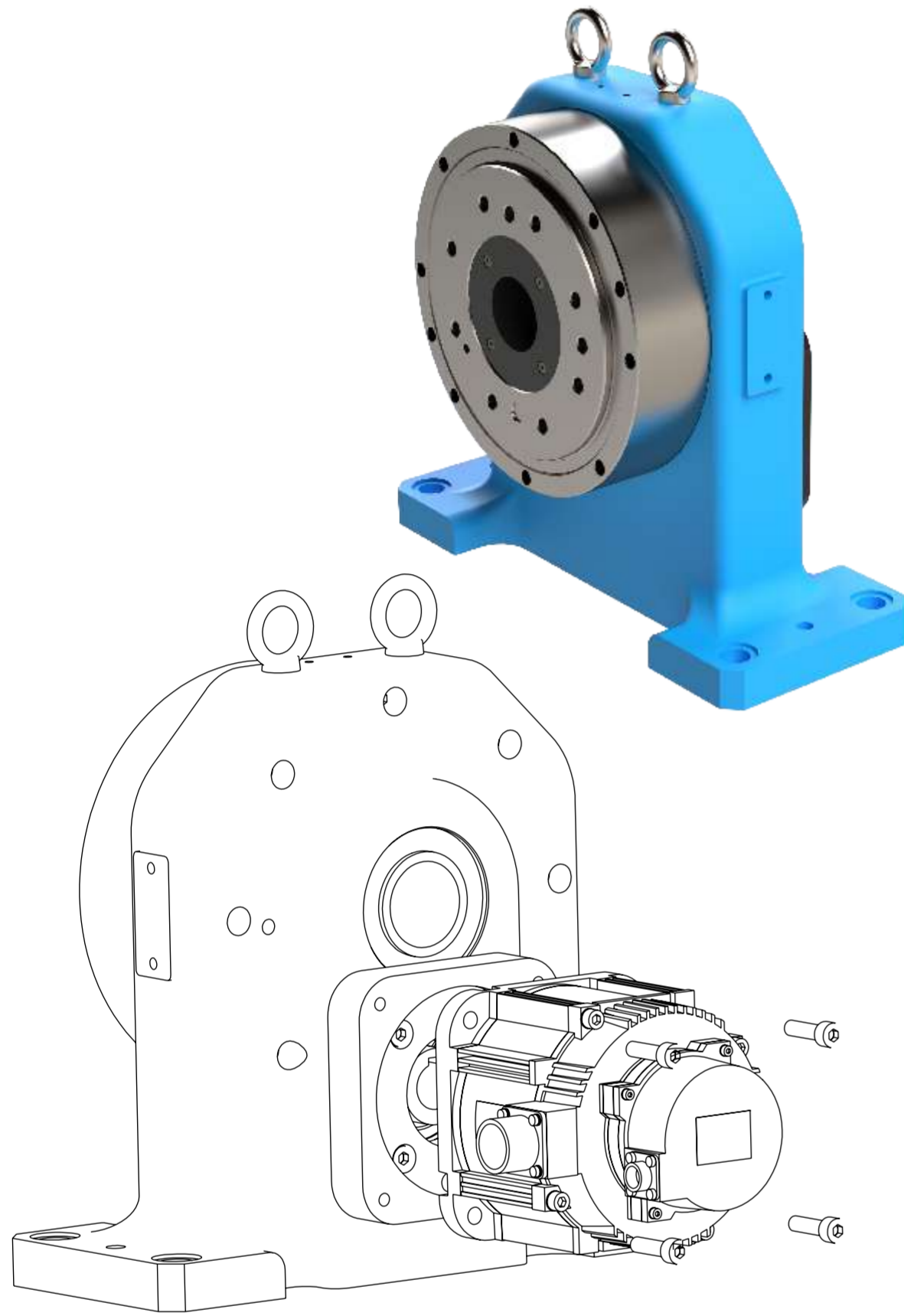
- Compatibility with any Servomotor
- Payload available from 2500 kgs -20000 kgs
- Foot mount positioner
- Solid /Hollow shaft
- Welding Capacity varies with respect to power source and material grade\*\*



Technical Specification							
S.No	Description		Specification				
1	IND		2500	5000	10000	15000	20000
2	Max.Payload		2500 Kgs	5000 Kgs	10000 Kgs	15000 Kgs	20000 Kgs
3	Welding Capacity	100% Duty Cycle	2x400 A**				
		80% Duty Cycle	2x500 A**				
4	Rotation Axis Torque	Dynamic	Upto 20250 Nm				
		Static	Upto 16200 Nm				
5	Rotation Axis	Rated Speed	Upto 6 RPM				
		Max.Speed	Upto 10 RPM				
6	Rated Offset from COG		Upto 500mm				
7	Tailstock,Free Standing		On request				
8	Hollow Shaft Dia		Upto 1000mm				
9	Welding Isolation		Optional				

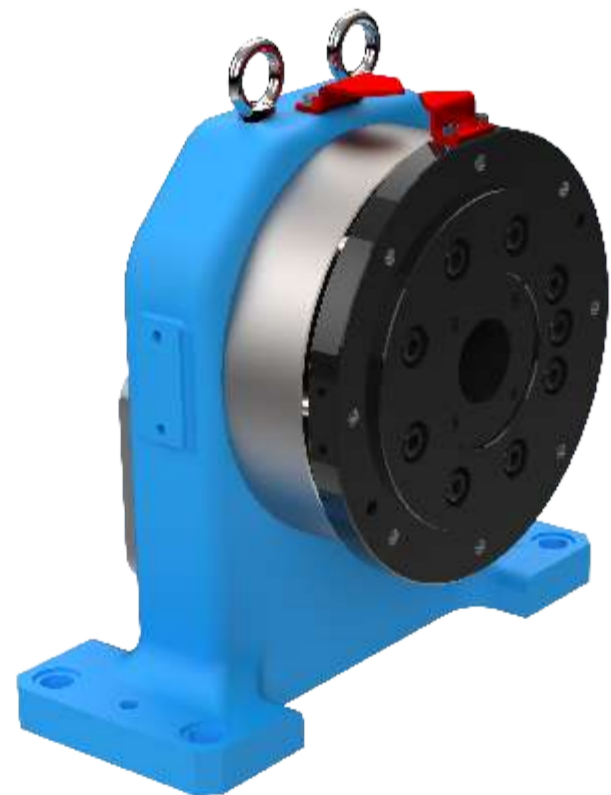
## IND-BH SERIES

- Compact in Size
- Foot Mount Positioner solution
- Hollow shaft

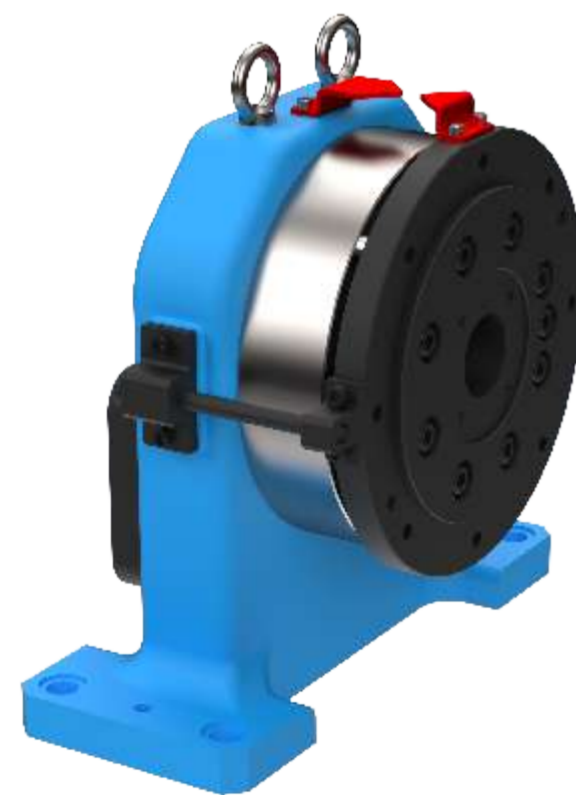


Specification Of Positioner - IND-BH-XXX-IX-XX

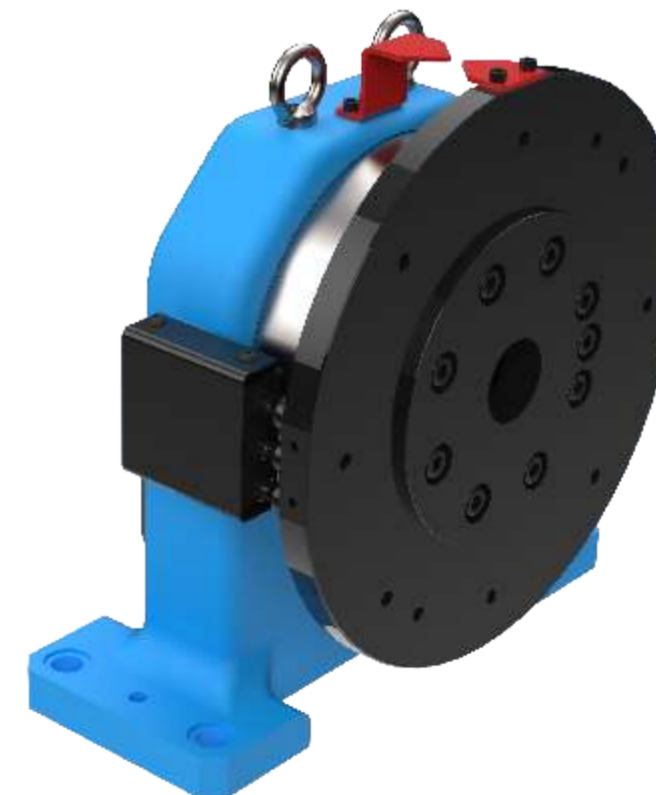
S.No	Description	Unit	Specification	
1	Part Code	-	IND-BH-0250-IX-XX	IND-BH-0500-IX-XX
2	Payload	Kg	250	500
3	Gear Ratio	-	149.30	149.30
4	Max.Servomotor Speed	RPM	3000	3000
5	Rated Torque	Nm	490	490
6	Allowable Acce/Dece. Torque	Nm	1225	1225
7	Allowable Thrust Load	N	11760	11760
8	Allowable Moment	Nm	1764	1764
9	Backlash	Arc.min	Less Than 1.0	Less Than 1.0
10	Lost Motion Max.	Arc.min	Less Than 1.0	Less Than 1.0
11	Isolation	Optional	Available	Available
12	Zeroing Pin	Optional	Available	Available
13	Proximity Sensor	Optional	Available	Available
14	Negative Terminal	Optional	Available	Available



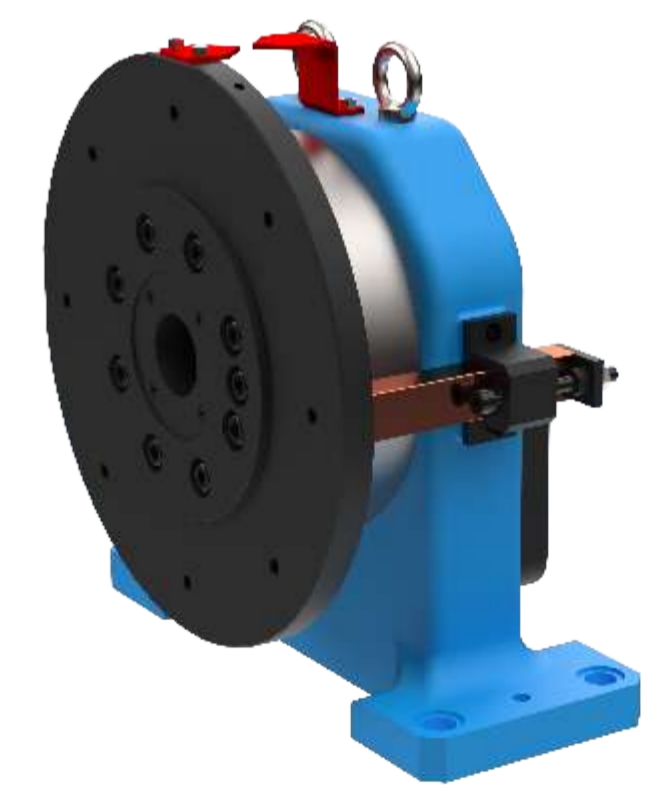
Option-A  
IND-BH-XXX-IL-XX (With Isolation)



Option-B  
IND-BH-XXX-IP-XX (With Zeroing Pin)



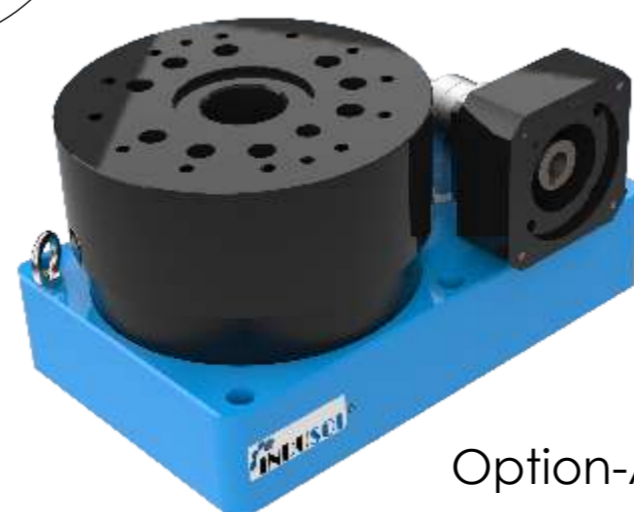
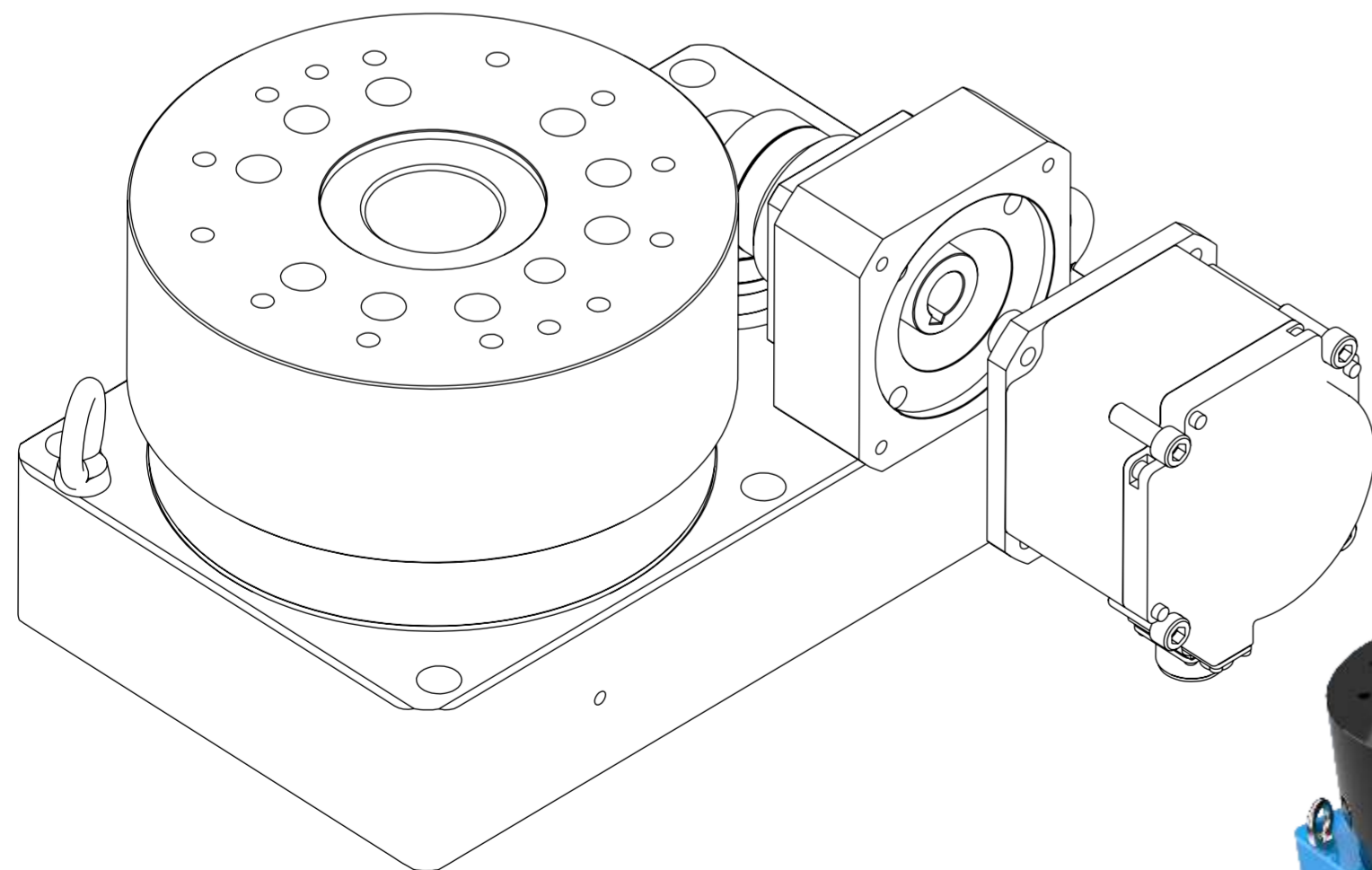
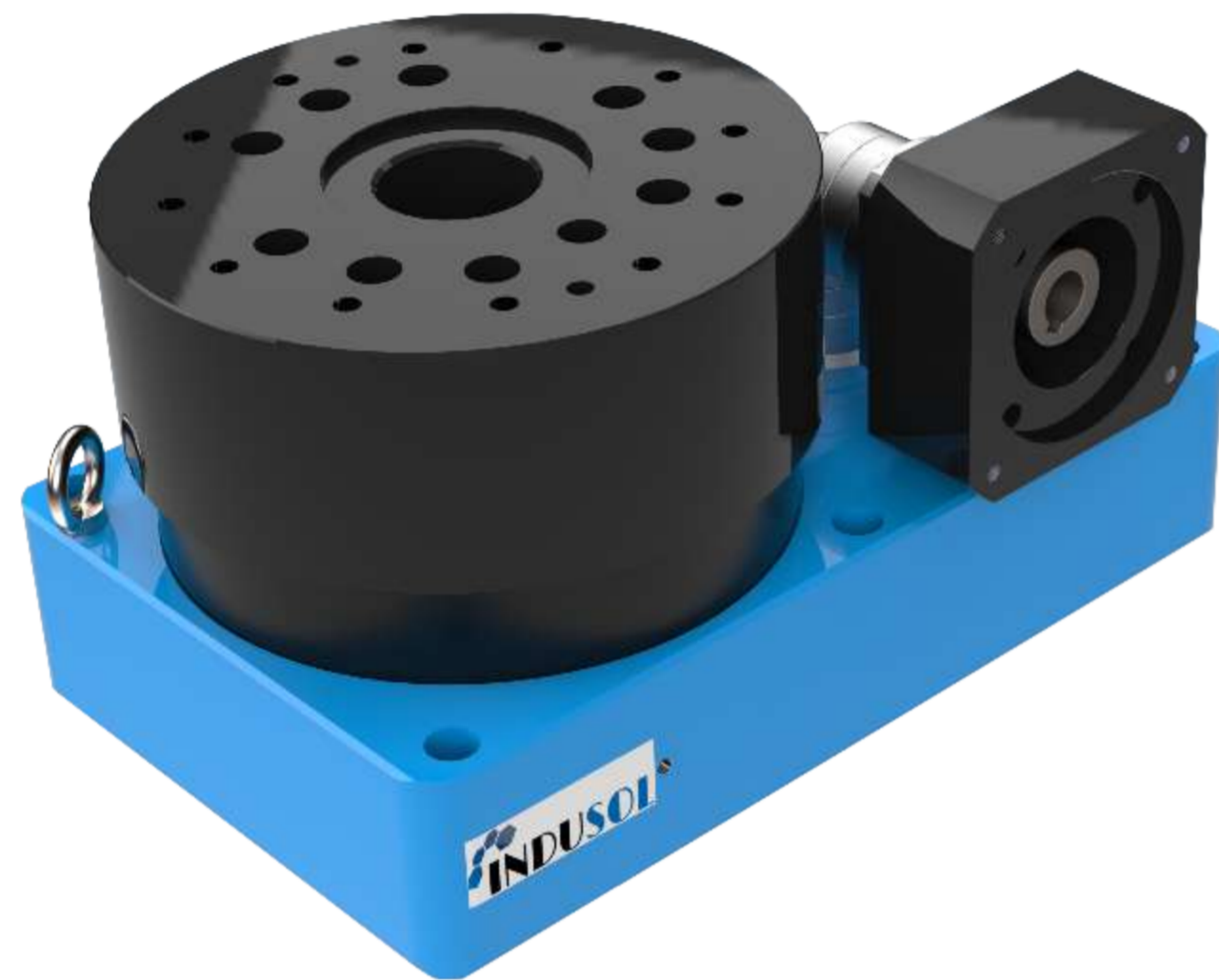
Option-C  
IND-BH-XXX-IL-XX (With Proximity Sensor)



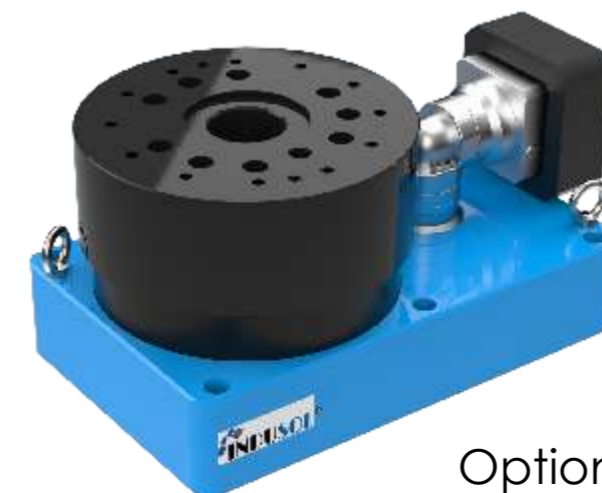
Option-D  
IND-BH-XXX-IN-XX (Negative Terminal)

## IND-TS/TH WISPY SERIES

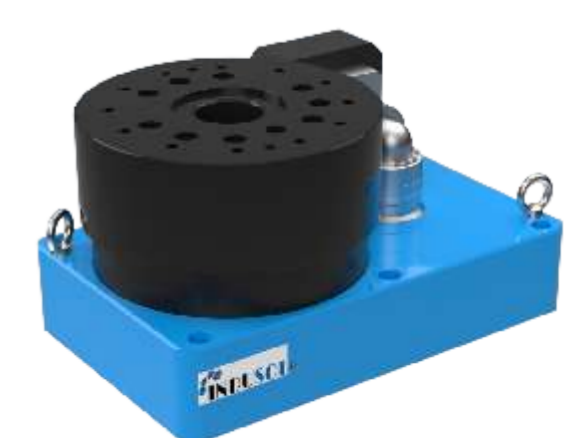
- Turn Table
- Hollow /Solid shaft
- Compact in size
- Customized Gear ratio as per customer requirement\*\*
- Compatibility with any Servomotor
- Coupling built-in Input shaft design
- Payload available from 250 kgs -1000 kgs



Option-A



Option-B

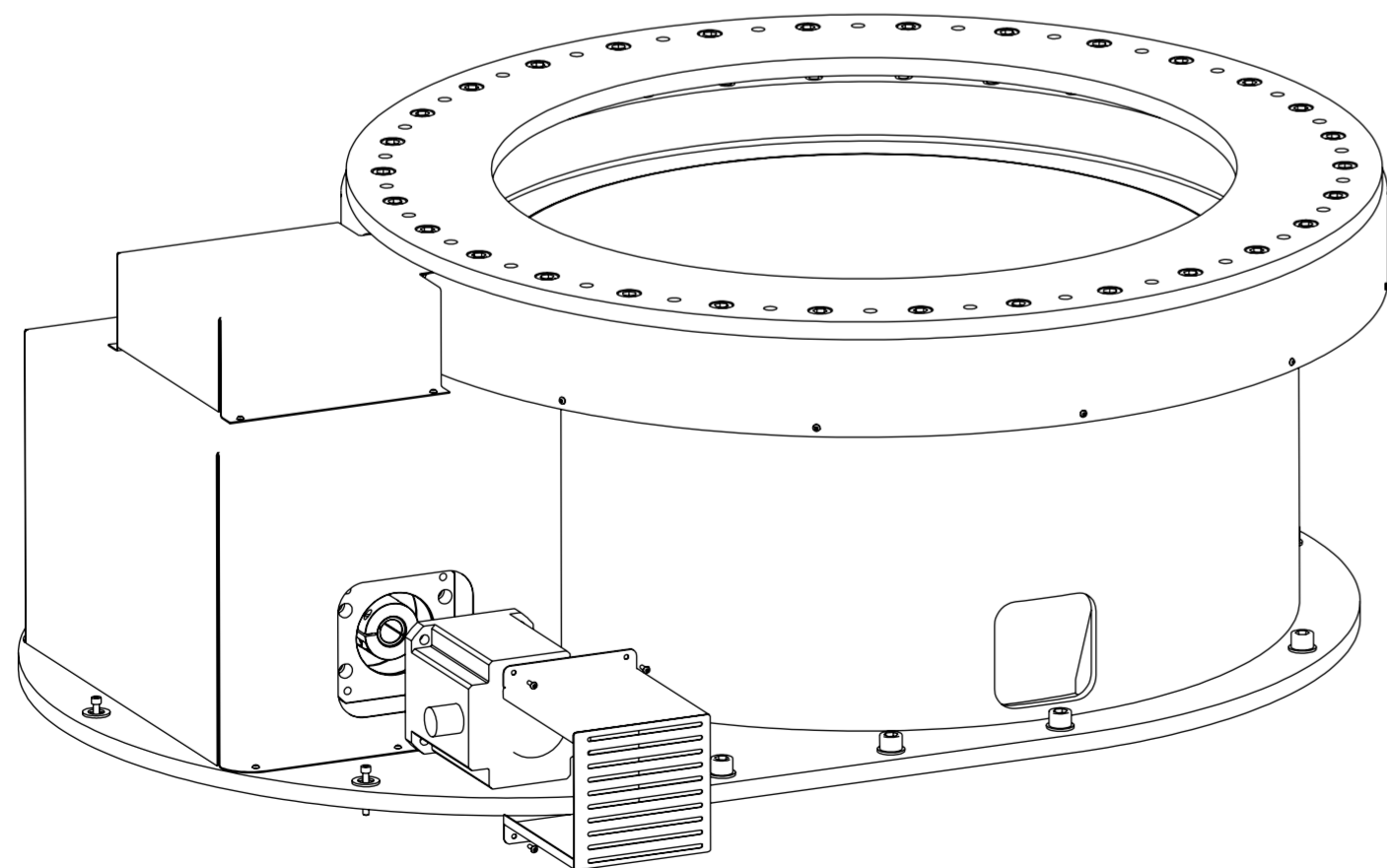
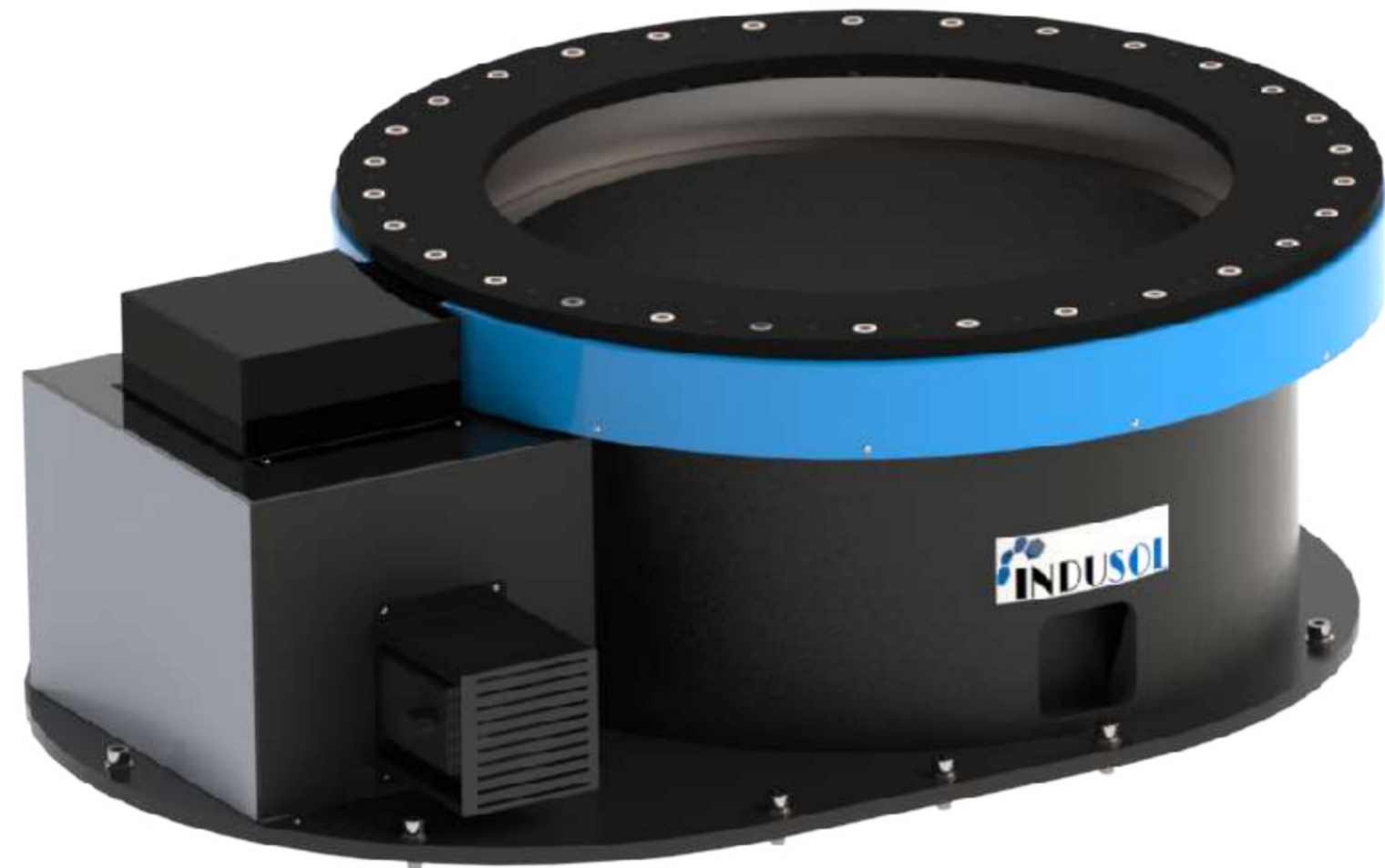


Option-C

Technical Specification							
S.No	Description	Unit	Specification				
1	IND	--	250	500	1000	500	1000
2	Type		Solid	Solid	Solid	Hollow	Hollow
3	Max.Payload	Kg	250	500	1000	500	1000
4	Gear Ratio**	-	Ask	Ask	Ask	Ask	Ask
5	Rated Output Torque	Nm	277	465	885	490	980
6	Max.Servo motor Speed	RPM	3000	3000	3000	3000	3000
7	Allowable Acce/Dece. Torque	Nm	612	1029	1960	1225	2450
8	Allowable Moment	Nm	784	1660	2150	1764	2450
9	Backlash	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0
10	Lost Motion	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0
11	Start up Efficiency	%	80	80	80	80	80
12	Welding Isolation	Optional	Yes	Yes	Yes	Yes	Yes
13	IP-65	Optional	Yes	Yes	Yes	Yes	Yes

## IND-TH HEAVY SERIES

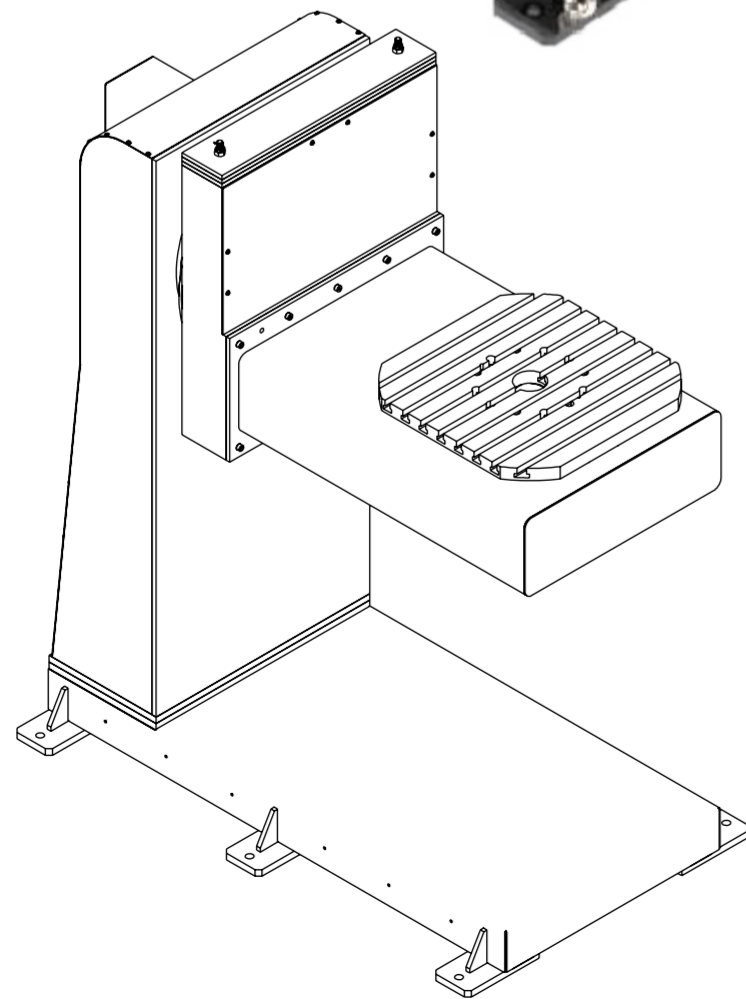
- Turn Table
- Hollow shaft
- Compact in size
- Customized Gear ratio as per customer requirement\*\*
- Compatibility with any Servomotor
- Coupling built-in Input shaft design
- Payload available from 2500 kgs -20000 kgs



Technical Specification							
S.No	Description	Unit	Specification				
1	IND	--	2500	5000	10000	15000	20000
2	Max.Payload	Kg	2500	5000	10000	15000	20000
3	Gear Ratio**	-	200~2000				
4	Rated Output Torque	Nm	2000~50000				
5	Max.Servo motor Speed	RPM	3000	3000	3000	3000	3000
6	Backlash	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0
7	Lost Motion	Arc.Min	<1.0	<1.0	<1.0	<1.0	<1.0
8	Hollow Shaft Dia	MM	200~1000				
9	Welding Isolation	Optional	Yes	Yes	Yes	Yes	Yes



## IND-2A-L SERIES

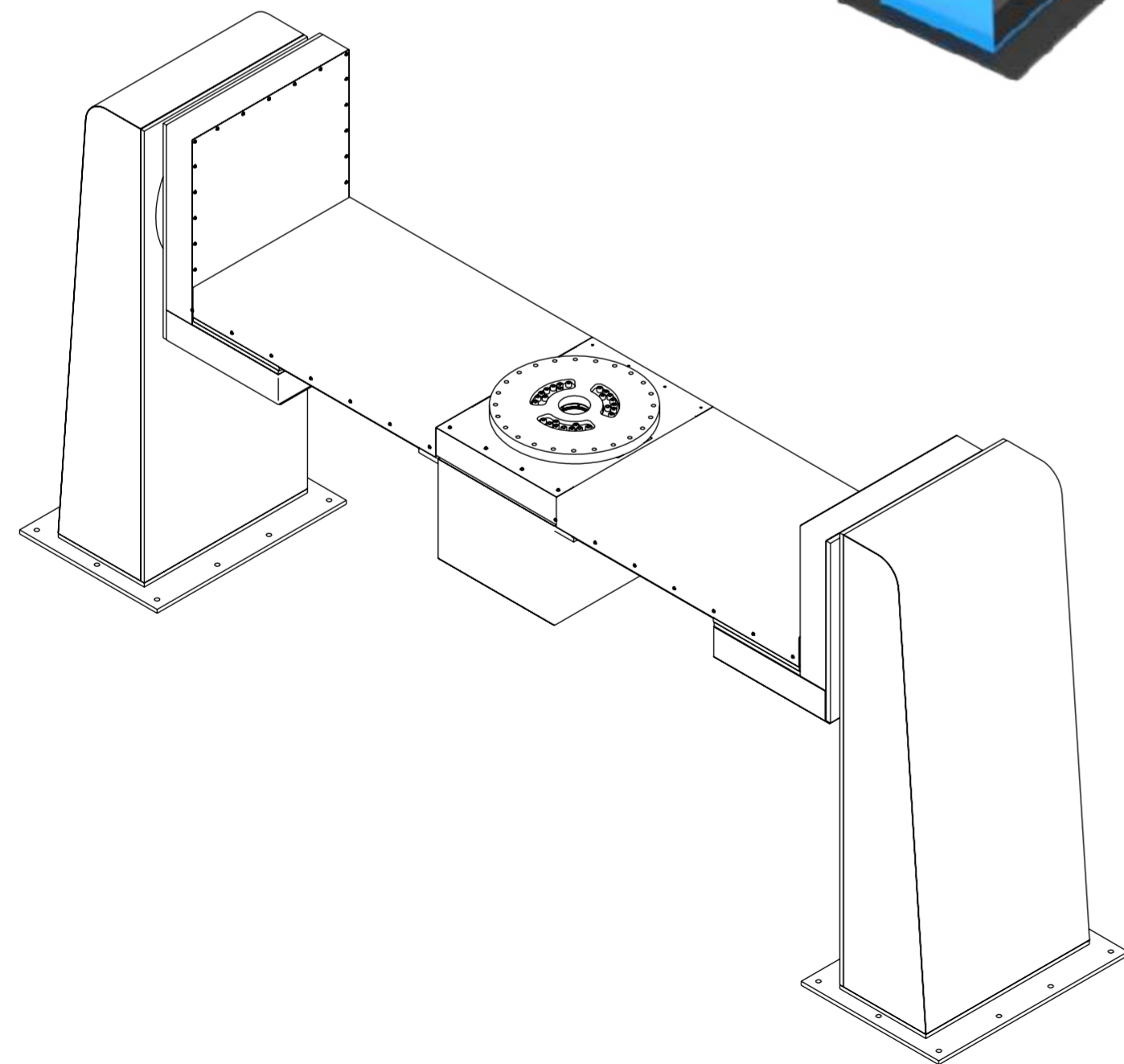
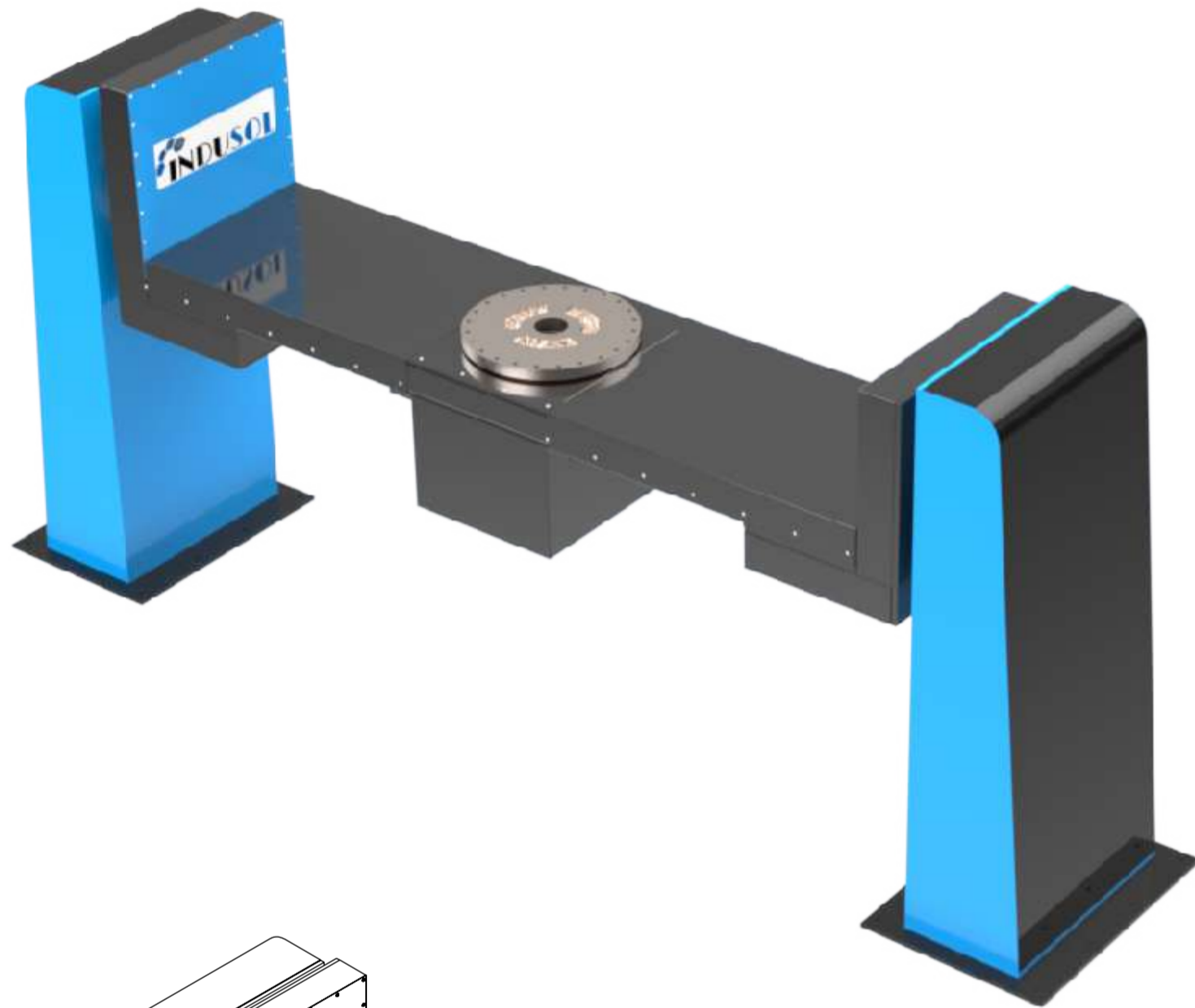


- Compatibility with any Servomotor
- Payload available from 2500 kgs -20000 kgs
- Solid /Hollow shaft
- Welding Capacity varies with respect to power source and material grade\*\*

Technical Specification						
S.No	Description	Specification				
1	IND	2500	5000	10000	15000	20000
2	Max.Payload	2500 Kgs	5000 Kgs	10000 Kgs	15000 Kgs	20000 Kgs
3	Welding Capacity	100% Duty Cycle	2x400 A**			
		80% Duty Cycle	2x500 A**			
4	Tilt Axis Torque	Dynamic	Upto 62000 Nm			
		Static	Upto 50000 Nm			
5	Tilt Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
6	Rotation Axis Torque	Dynamic	Upto 44000 Nm			
		Static	Upto 35000 Nm			
7	Rotation Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
8	Rated Offset from COG	Upto 500mm				
9	Hollow Shaft Dia	Upto 1000mm				
10	Welding Isolation	Optional				

## IND-2A-C SERIES

- Compatibility with any Servomotor
- Payload available from 2500 kgs -20000 kgs
- Solid /Hollow shaft
- Welding Capacity varies with respect to power source and material grade\*\*

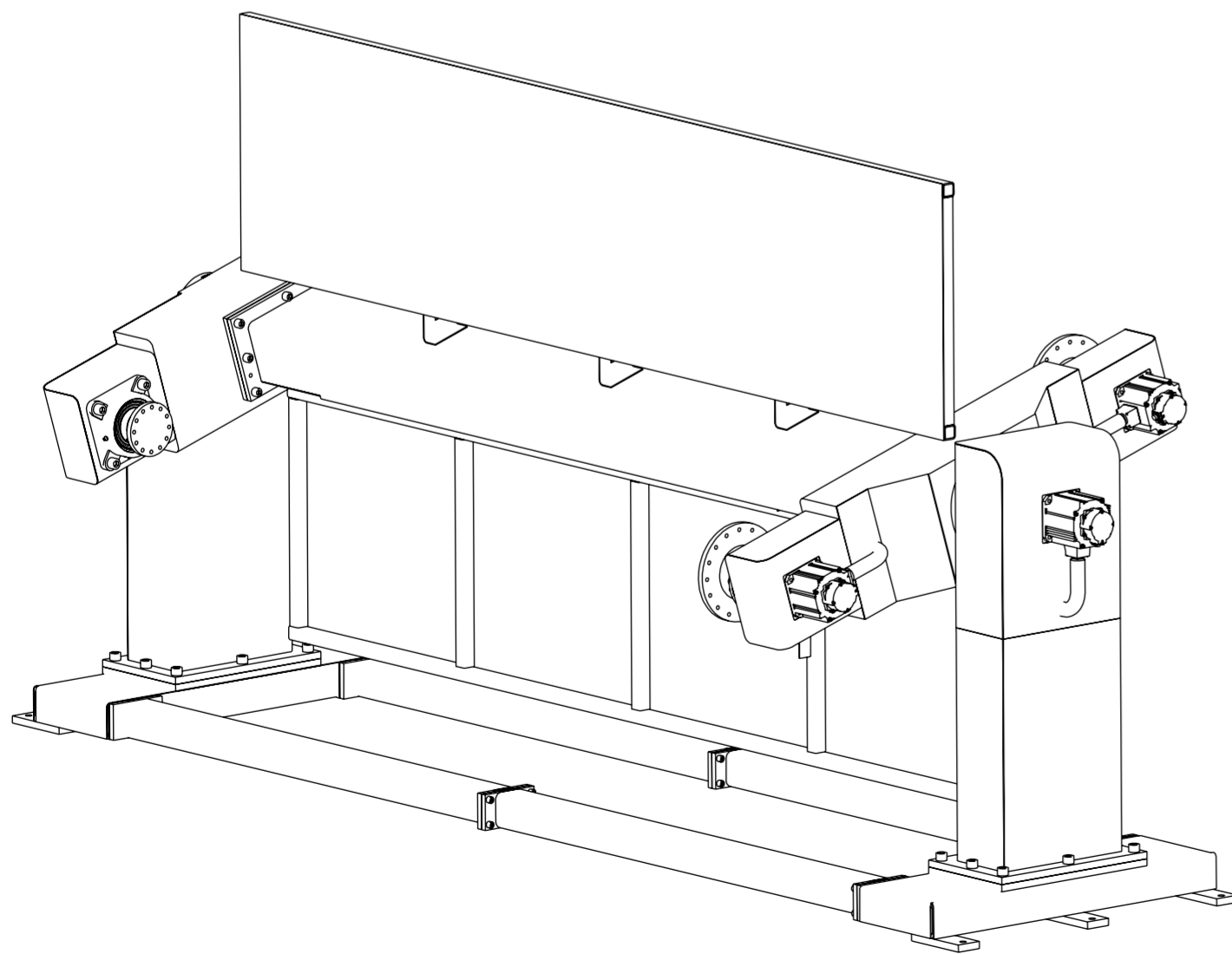


**Technical Specification**

S.No	Description	Specification				
		2500	5000	10000	15000	20000
1	IND	2500	5000	10000	15000	20000
2	Max.Payload	2500 Kgs	5000 Kgs	10000 Kgs	15000 Kgs	20000 Kgs
3	Welding Capacity	100% Duty Cycle	2x400 A**			
		80% Duty Cycle	2x500 A**			
4	Tilt Axis Torque	Dynamic	Upto 62000 Nm			
		Static	Upto 50000 Nm			
5	Tilt Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
6	Rotation Axis Torque	Dynamic	Upto 44000 Nm			
		Static	Upto 35000 Nm			
7	Rotation Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
8	Rated Offset from COG	Upto 500mm				
9	Hollow Shaft Dia	Upto 1000mm				
10	Welding Isolation	Optional				

## IND-2A-F SERIES

- Compatibility with any Servomotor
- Payload available from 2500 kgs -20000 kgs
- Solid /Hollow shaft
- Welding Capacity varies with respect to power source and material grade\*\*



### Technical Specification

S.No	Description	Specification				
		2500	5000	10000	15000	20000
1	IND	2500	5000	10000	15000	20000
2	Max.Payload	2500 Kgs	5000 Kgs	10000 Kgs	15000 Kgs	20000 Kgs
3	Welding Capacity	100% Duty Cycle	2x400 A**			
		80% Duty Cycle	2x500 A**			
4	Tilt Axis Torque	Dynamic	Upto 62000 Nm			
		Static	Upto 50000 Nm			
5	Tilt Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
6	Rotation Axis Torque	Dynamic	Upto 44000 Nm			
		Static	Upto 35000 Nm			
7	Rotation Axis	Rated Speed	Upto 6 RPM			
		Max.Speed	Upto 10 RPM			
8	Rated Offset from COG	Upto 500mm				
9	Hollow Shaft Dia	Upto 1000mm				
10	Welding Isolation	Optional				

## IND-3A-H SERIES



- Rigid Design
- Compatibility with any Servomotor
- Payload available from 500 kgs -3000 kgs
- Solid /Hollow shaft
- Ideal Working Height
- Welding Capacity varies with respect to power source and material grade\*\*

Technical Specification						
S.No	Description	Unit	Specification			
1	Part Code	-	IND-3A-500W	IND-3A-1000W	IND-3A-1500W	IND-3A-XXXW
2	Max.Payload per Station	Kg	500	1000	1500	Upto 1500
3	Major Axis Index Time(0-180°)	Sec	3.5 - 4	3.5 - 4	3.5 - 4	Ask
4	Minor Axis Load difference between the stations	Kg	50	100	150	Ask
5	Minor Axis Rated Torque	Nm	500	1000	1550	Ask
6	Major Axis Rated Torque	Nm	2500	3100	3100	Ask
7	Tailstock Hollow shaft dia	MM	60	60	60	Ask
8	Headstock Gearbox Type	-	Solid/Hollow Shaft (∅ 50mm)	Solid/Hollow Shaft (∅ 60mm)	Solid/Hollow Shaft (∅ 60mm)	Ask
9	Minor Axis CG distance	MM	100	100	100	Ask
10	Dist b/w Head stock and Tail stock Face plate	MM	1400-2200	1800-2800	1800-2800	Ask
11	Loading Height	MM	790	830	830	Ask
12	Headstock & Tailstock Inbuilt Welding Isolation	-	Yes	Yes	Yes	Yes
13	Negative Terminal	-	Optional	Optional	Optional	Optional

### 1.Head Stock

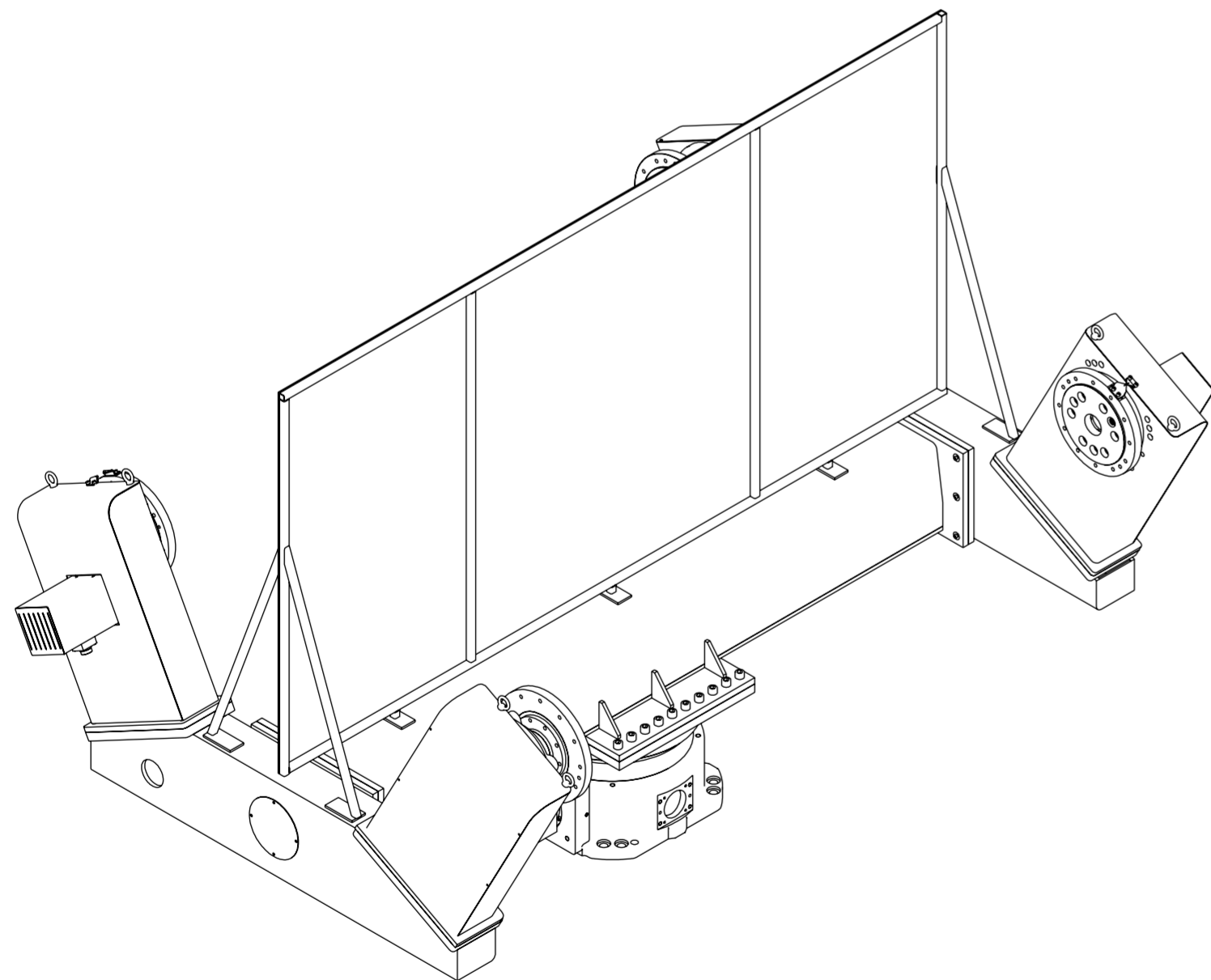
OPTION AVAILABLE IN SOLID SHAFT & HOLLOW SHAFT  
WELDING ISOLATED POSITIONER

### 2.Tail Stock

SMART TAILSTOCK WITH 60 mm HOLLOW SHAFT  
IN-BUILT WELDING ISOLATION

### 3.Turn Table

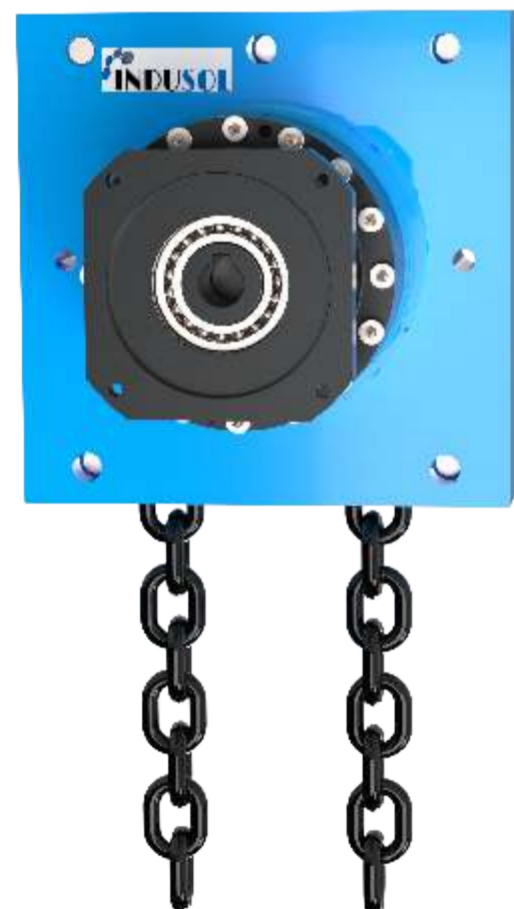
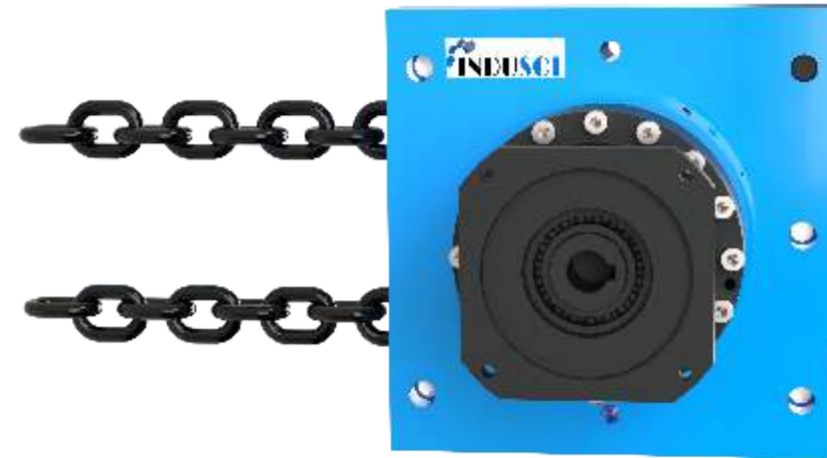
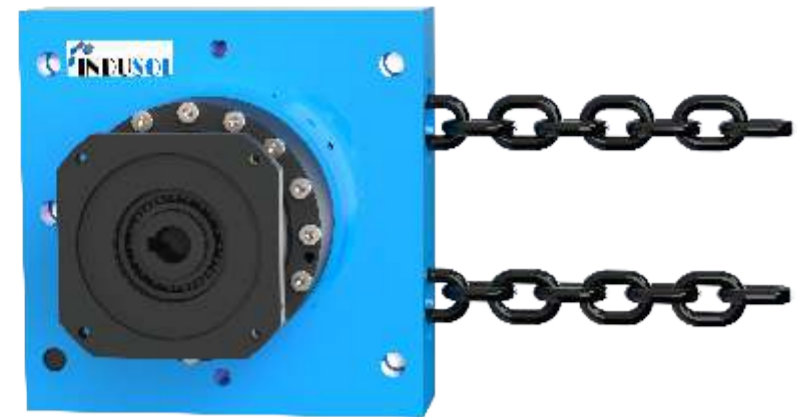
FASTER STATION INDEX TIME



## IND-SPM-CHN DRIVE

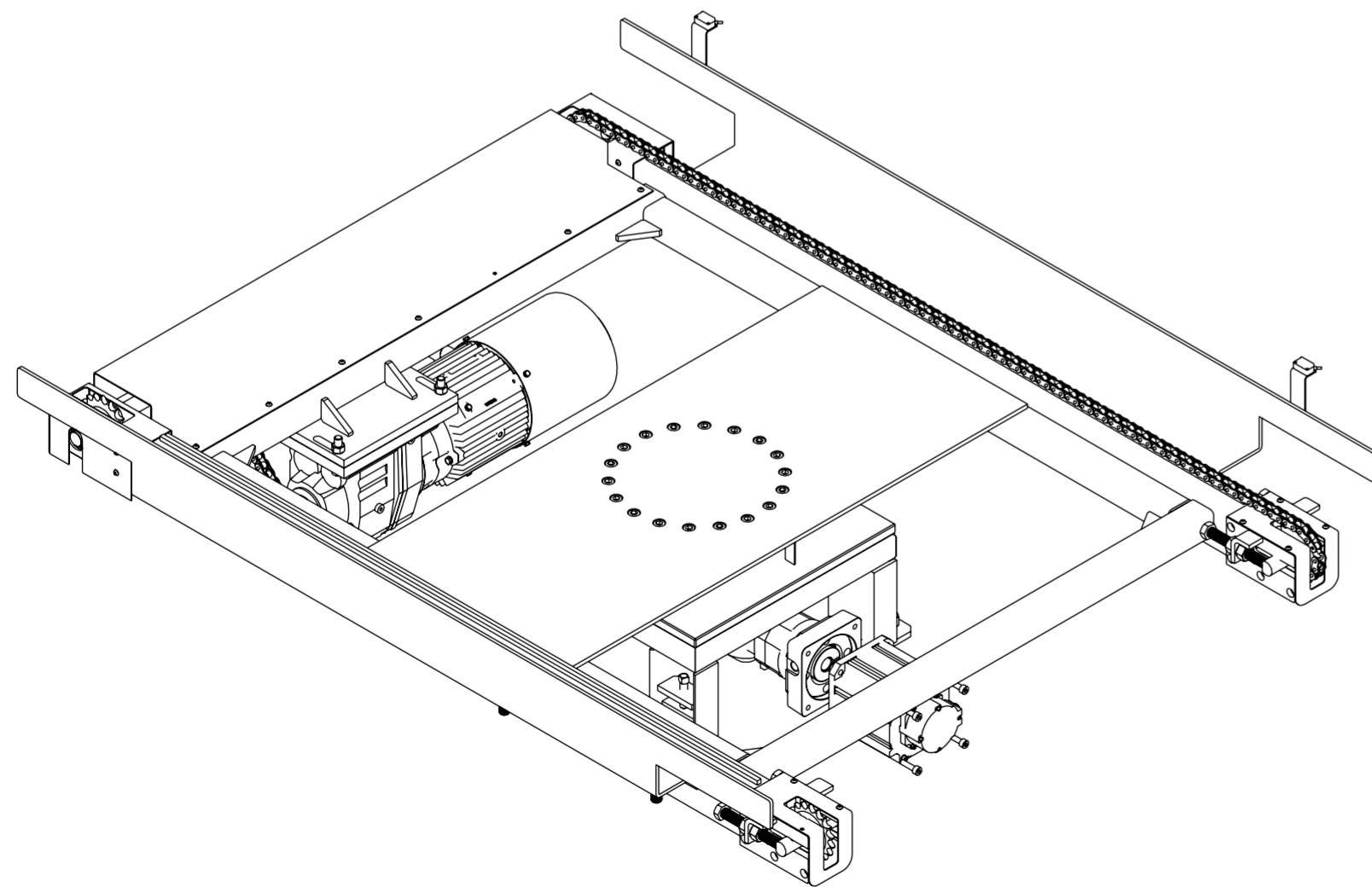
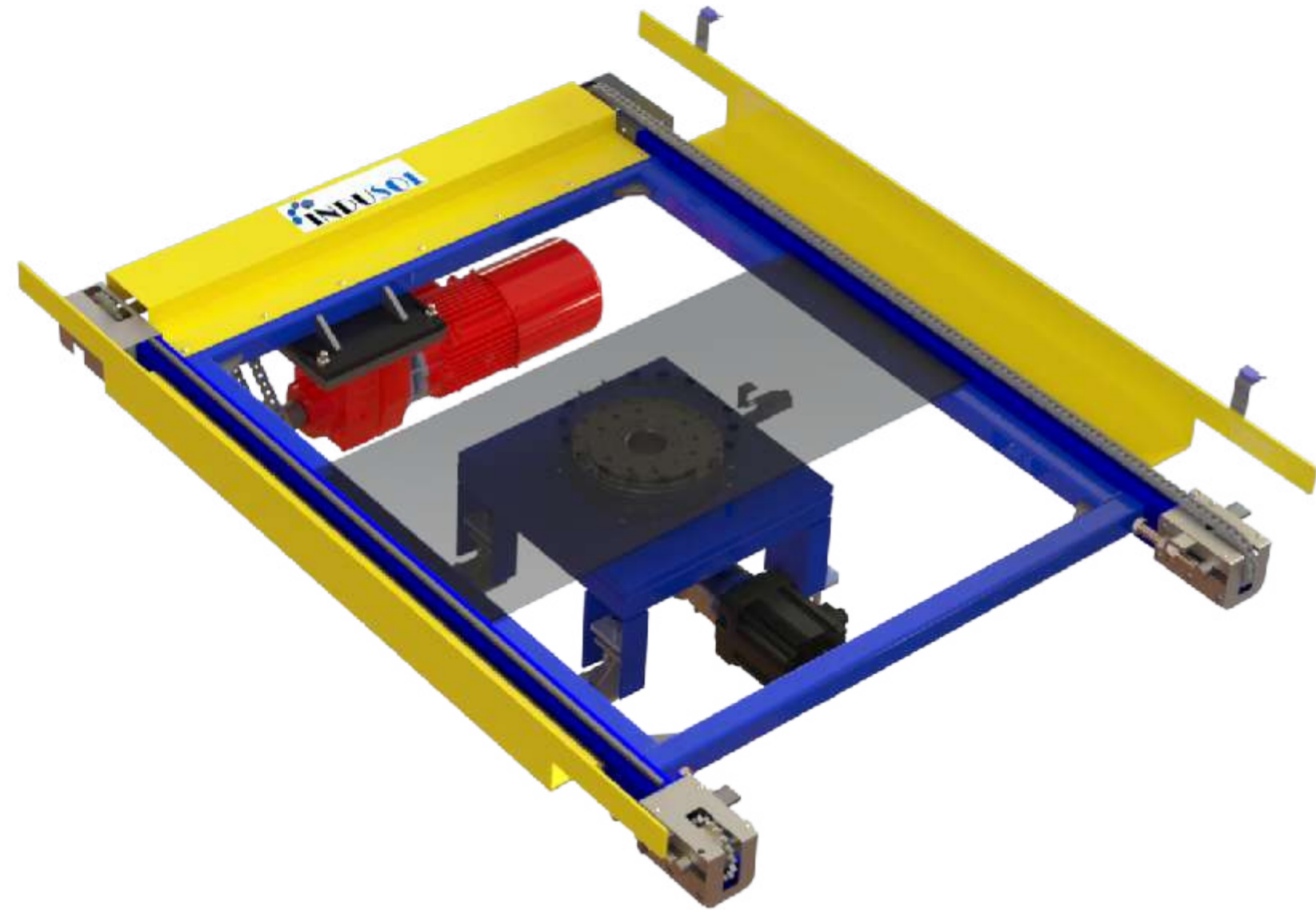
- Endless Chain Drive
- Precision Positioning
- Compact in size

Technical Specification						
S.No	Description	Unit	Specification			
1	IND	--	25	42	80	160
3	Gear Ratio**	-	41~164	41~164	41~171	41~201
4	Rated Output Torque	Nm	277	465	885	1807
5	Max.Servo motor Speed	RPM	3000	3000	3000	3000
7	Conveyor Speed	Mtr/Min.	Upto 20			



# IND-TT-CONVEYOR

- Endless Rotation
- Precision Positioning
- Compact in size



Technical Specification

S.No	Description	Unit	Specification			
			500	1000	2000	3000
1	IND	--	500	1000	2000	3000
2	Payload	Kgs	500	1000	2000	3000
3	Gear Ratio	-	109~240	100~258	106~245	115~253
4	Rated Output Torque	Nm	490	980	1960	3136
5	Max.Servo motor Speed	RPM	3000	3000	2000	2000
6	Allowable Moment	Nm	1764	2450	8820	20580
7	Rotation Speed(0 to 90°)	Sec	3			

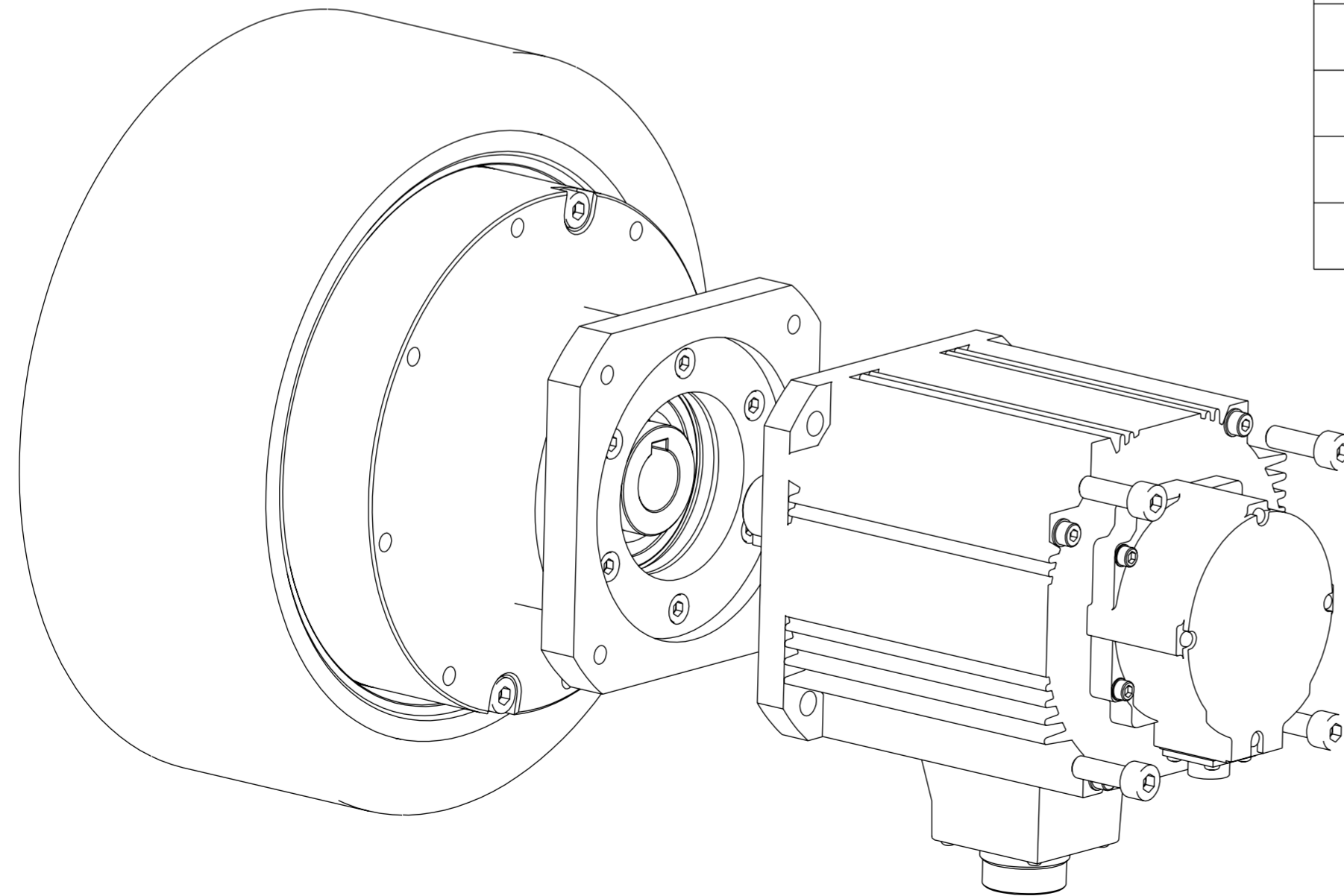
## AGV WHEEL



- Endless Rotation
- Precision Positioning
- Compact in size

Specification Of AGV Wheel

S.No	Description	Unit	Specification		
1	Allowable Radial Load	Kg	600	800	1000
2	Wheel Continuous Allowable Speed	RPM	110	100	88
3	Wheel Dia	MM	200	225	250
4	Wheel Width	MM	90	90	90
5	Backlash	Arc.min	Less Than 12	Less Than 12	Less Than 12
6	Lost Motion Max.	Arc.min	Less Than 12	Less Than 12	Less Than 12
7	Total Assembly Length	MM	TBD	TBD	TBD
8	Lubricant Type	-	Vigo Grease	Vigo Grease	Vigo Grease
9	Lubricant Interval	Hrs.	20000	20000	20000
10	Wheel Material		Polyurethane	Polyurethane	Polyurethane



## VIGO GREASE RE0



TEST ITEM		VIGO GREASE RE0
THICKENER		LITHIUM SOAP
BASE OIL		SYNTHETIC HYDROCARBON OIL, MINERAL OIL
BASE OIL KINEMATIC VISCOSITY (40 C, 100 C), (mm <sup>2</sup> )/s		81.3
APPEARANCE		YELLOWISH BROWN,BUTTERY
WORKED PENETRATION		398
DROPPING POINT, C		190
OXIDATION STABILITY (99° C, 100h),kpa		20
WORKING STABILITY		406
LOW TEMPERATURE TORQUE (-30 C) N. cm	STARTING TORQUE	270
	RUNNING TORQUE	32
FOUR-BALL EP, N	L.N.S.L W.P. L.W.I	1236 3089 569



# MOLYWHITE RE 00



TEST ITEM		MOLLYWHITE RE 00
THICKENER		LITHIUM SOAP
BASE OIL		SYNTHETIC HYDROCARBON OIL, MINERAL OIL
BASE OIL KINEMATIC VISCOSITY (40 C, 100 C), (mm <sup>2</sup> )/s		32.3
APPEARANCE		YELLOW, BUTTERY
WORKED PENETRATION		415
DROPPING POINT, C		193
OXIDATION STABILITY (99° C, 100h), kpa		20
WORKING STABILITY		415
LOW TEMPERATURE TORQUE (-30 C) N. cm	STARTING TORQUE	110
	RUNNING TORQUE	20
FOUR-BALL EP, N	L.N.S.L W.P. L.W.I	1236 3089 569

## MULTEMP FZ NO. 00



TEST ITEM		MULTEMP FZ NO 00
BASE OIL		SYNTHETIC HYDROCARBON OIL, MINERAL OIL
BASE OIL KINEMATIC VISCOSITY (40 C, 100 C), (mm <sup>2</sup> /s)		105
APPEARANCE		YELLOW BROWN, LIQUID
WORKED PENETRATION		415
DROPPING POINT, C		183
COPPER STRIP CORROSSION (100 C, 24h)		PASS
EVAPORATION LOSS, ,MASS % (99 C, 22h)		0.78
LOW TEMPERATURE TORQUE (-30 C) N. cm	STARTING TORQUE	19
	RUNNING TORQUE	3.5
FOUR-BALL EP, N	L.N.S.L	1236
	W.P.	3923
	L.W.I	608

## RV OIL SB150



TEST ITEM		RV OIL SB150
BASE OIL		SYNTHETIC HYDROCARBON OIL, MINERAL OIL
BASE OIL KINEMATIC VISCOSITY (40 C, 100 C), (mm <sup>2</sup> /s)		158(40 °C), 19.4(100 °C)
VISCOSITY INDEX		140
APPEARANCE		GREEN
FLASH POINT, C		260
RUST-PREVENTING CHARACTERISTIC (60 C, 24h)		PASS
CORROSIVENESS TO COPPER (100 C, 3h)		1a
FOAMING CHARACTERISTIC (seq-I, 24 C), mL/mL		0/0
FOUR-BALL EP, N	L.N.S.L W.P. L.W.I	1569 3089 647