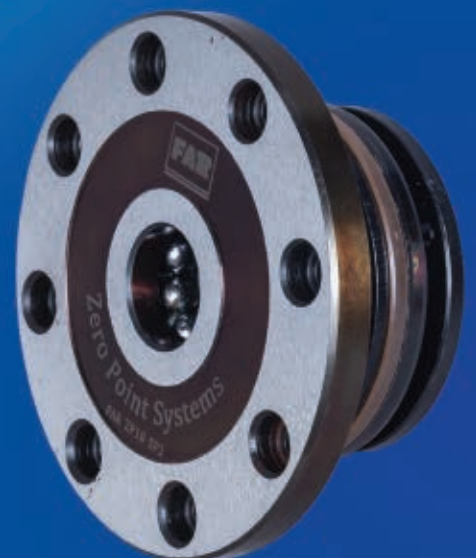




www.far.co.in



Company Profile &
Product Catalogue

FAR - a brief history

Fenwick and Ravi (FAR) is a leading machine tool company established in the year 1990 at Bangalore, the capital of Karnataka state in India. FAR specializes in the manufacture of Barfeeders, Self Centering Steady Rests, Angular Mill Heads and Zero Point Clamping systems. We are equipped with the state-of-the-art technology, highly qualified and experienced people, who are the back bone of our organization. FAR products go through stringent quality control process right from design to the finishing stage. We can even provide customized solutions as per the clients requirements. FAR's products have applications in different kind of industries like auto mobile

sector, defense, railway, aerospace, machine tool industry etc. Since 2004 onwards FAR exports its product to countries like ITALY, FRANCE, USA, BRAZIL, CHINA, GERMANY, CANADA, AUSTRALIA, KOREA, SPAIN, PORTUGAL, ROMANIA, SOUTH AFRICA, TAIWAN, THAILAND, TURKEY, MIDDLE EAST, POLAND etc.

We at FAR believe high quality products and the price advantage are the key to success in a keen competitive market.



The People Behind FAR

FAR was started when Fenwick Thomas and R. Ravi; both graduate Engineers; decided to put together their combined skills and experience; to start a machine tool company that would be on par with any of the leading international companies. In this endeavor they were guided by Mr. P Radhakrishnan, MS (WISCONSIN, USA) who is a renowned technocrat and Machine designer.

To fulfill this dream, over the years we have built a team of highly qualified and experienced personnel. Many of them have been with us since its inception; their dedicated efforts have gone a long way in making FAR a truly international company. The

team is up-to-date with all the newest technological advances in the industry.

As part of its CSR initiative FAR also has a training department which conducts a one year training programs for very young boys from financially weak background. These boys undergo both classroom as well as on the Job training on machines.

This is FAR's ongoing program of giving back to the society, to help build a future for these young individuals.



www.far.co.in



Our Mission

"Indigenous development and supply of critical accessories for machine tools."

Our Vision

"To be one of the leading manufacturer of machine tool accessories in the world."

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OUR STRENGTHS... THAT MATTER TO YOU



FAR is led by an experienced partner-team and over 100 skilled and qualified workforce.

Being an independent firm, we are able to forge close partner relationships with clients. We respond diligently to your needs with a turn key solution at your place.

That is our strength that urges you to choose FAR.

STEADY REST



Keeping Your
Work Steady

BAR FEEDER



We raise the bars
of your business

Our partnership with
you holds firm



ZERO POINT SYSTEMS

Helps you turn it right



ANGULAR MILLING HEADS

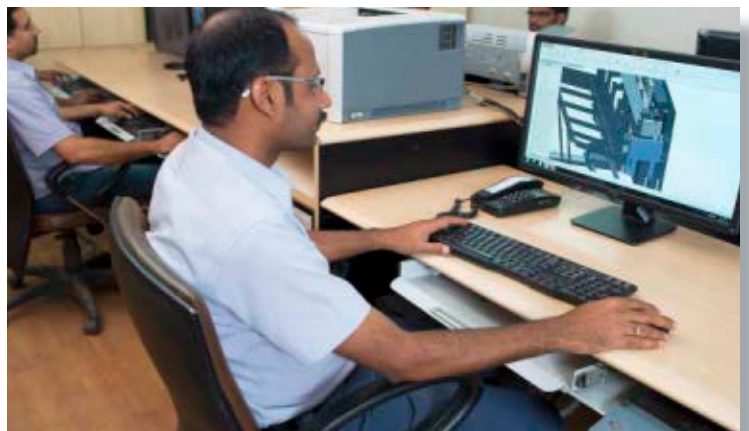
TURN KEY SOLUTION AT YOUR PLACE.



FAR - Technology and Facilities

FAR is housed in a very modern facility equipped with the latest star-of-the-art technology and equipment. Every product starts at the design center where they are designed using the latest CAD/CAM software. Once the design is approved it then goes to the planning section which chalks out a schedule for all the stages. From planning it proceeds to the production section which comprises of the machine shop, the quality department and the assembly section. Almost all production is done in-house on the shop floor that is equipped with CNC turning center and VMC's, jig boring, planning machine, cylindrical grinding machine, surface grinders CNC wire cutting machine etc. Quality is checked at every stage and on every single part. Once the final assembly is done it undergoes a final quality check and then goes to the shipping department.

- ▶ Customer Support
- ▶ Onsite Technicians and Commissioning
- ▶ Offices In: Delhi, Pune, Chennai, Gujarat



FAR - R&D and ISO Quality Standards

FAR is committed to innovation of its products, both in terms of design and functionality. We have a highly motivated research and development team that is constantly working to improve our products. We also work on customizing as per our clients requirements.

FAR is an ISO certified company, quality is our commitment to our clients. We are equipped with the latest inspection machines and processes.

Our Quality Policy

We are committed to provide state of art machine tools and accessories and are determined to meet the customer expectations in respect of quality, cost and delivery.





FAR & Social Responsibility

FENWICK AND RAVI (FAR) has been conscious of its social responsibilities.

FAR has been doing its best in the direction of nation building. It is our passion and that drives us to do more...

We have the following social initiatives and some has become a model for other industry to follow.

it is our passion

FAR is trying to tie up its Training activities with the football team. A few players are also being trained at the FAR Training Centre to ensure a livelihood to the youngsters.

The Team is run out-of passion for football, with also on eye for helping young football players, who are mostly from weaker sections of the society. Bangalore Eagle Football Club is registered with the Karnataka State Football Association and was launched in 2011.

FAR sponsored Bangalore Eagles Football Team now playing in BDFA Super Division.



Football Club





FAR SWABAL Machinists Training Center

FAR has been running a Training centre for boys of above 18 years. The objective of the training centre is impart skills and necessary in these youngsters. Thus they can turn into highly skilled machinists who can operate any type of conventional or precision CNC machines and also to be skilled assembly fitters.

- Commenced in 2005
- 7 Batches completed, 110 boys passed out.
- All trainees from economically weaker sections of society.
- Good stipend through out the course makes this an EARN While You LEARN program.
- Full time dedicated instructor
- 12 months of class room and machine training followed by 6 months on the job training.
- Furnished class room, filing benches, milling machine, lathe, drilling and exposure to all kind of sophisticated & CNC machines.
- All the students who have completed got placed in Bangalore.





STEADY RESTS



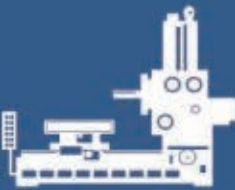



Information

Steady rests are normally used for efficient machining of long slender shafts. On conventional steady rests three screw 120° apart are adjusted manually. This type of centering process is not reliable and depends on operator's skill. FAR self centering steady rests work on an entirely different principle.

Three rollers hold the work piece at points Approx 120° apart. These rollers move such that they always inscribe concentric circles between them. This feature along with the internal compensating system prevents the dislocation of work piece center under changing clamping pressures. This results in high centering accuracy. FAR Steadies are made of high grade alloy steel and all parts are fully hardened to 60 HRC, and heat treated to be 100% corrosion free.

The various models of FAR self centering steadies have been carefully selected to optimize the clamping ranges for the various sizes of lathes and work piece diameters.

- The hardened and ground parts of the FAR Self centering steady rest made from high quality materials ensures highest precision, robust and vibration free construction gives-long-service-period.
- The durable and compact design of the FAR self centering steady rest gives guarantee for high economical machining

Recommended bigger clamping range on machine with...	...more working area	...less working area	...very restricted working area
 <p>STEADY REST APPLICATIONS</p>			
 <p>TURNING</p>	FRUN* FRU	FRUN FRUB* FRU CS* FRC	FRC
 <p>TURNING AND MILLING</p>	FRUN FRU	FRUN FRUB CS* FRC	FRUB CS FRC*
 <p>CAM AND CRANK SHAFT</p>	KRHS*	KRHS	
 <p>HEAVY DUTY</p>	CS HL	CS HL	
 <p>GRINDING</p>	AS* KRGU GHS	AS	
<p>*First choice #Steady model may vary for special applications</p>			

FRC

- Ultra compact steady rest
- Pressure Booster
- Provision for Proximity feedback
- Provision for Automatic Lubrication



FRUN

- Fully sealed body
- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication



FRNC

- Fully sealed body
- Coolant through arms
- Safety Valve
- Provision for max. opening feedback
- 1 set swarf guard 3-piece
- Provision for compressed air connection
- Provision for centralized lubrication



FRU

- Rear Mounted Hyd. cylinder
- Provision for Proximity feedback
- Provision for Automatic Lubrication



FRUB

- Side Mounted Hyd. Cylinder
- Provision for Proximity feedback
- Provision for Automatic Lubrication



FRUA

- Rear Mounted Hyd. Cylinder
- Extra opening for Top arm
- Provision for Proximity feedback
- Provision for Automatic Lubrication



FRUAB

- Side Mounted Hyd. Cylinder
- Extra opening for Top arm
- Provision for Proximity feedback
- Provision for Automatic Lubrication



CS

- Extra compress steady rest
- Rear Mounted Hyd. Cylinder
- Provision for Coolant flush through arms
- Provision for Proximity feedback
- Provision for Automatic Lubrication



HEAVY DUTY

- Heavy Duty Steady rest
- Provision for Bottom arm support
- Eccentric pin adjustment
- Provision for Proximity feedback
- Provision for Automatic Lubrication



KRHS

- Rear Mounted Hyd. Cylinder
- Narrow Arm
- Provision for Proximity feedback
- Provision for Automatic Lubrication
- Option for coolant flush through arms



KRSHS

- Side Mounted Hyd. Cylinder
- Narrow Arm
- Provision for Proximity feedback
- Provision for Automatic Lubrication



HEAVY DUTY MANUAL STEADY REST

- Manual Steady rests for Heavy duty application
- Rollers or Pad contact
- Weight carrying capacity up to 30000kg



SPECIAL

- Friction Welding
- Induction Hardening
- Screw Cutting
- Deep Hole drilling



AS

- Retractable arms
- Provision for horizontal and vertical adjustment
- Proximity feedback



KRGU

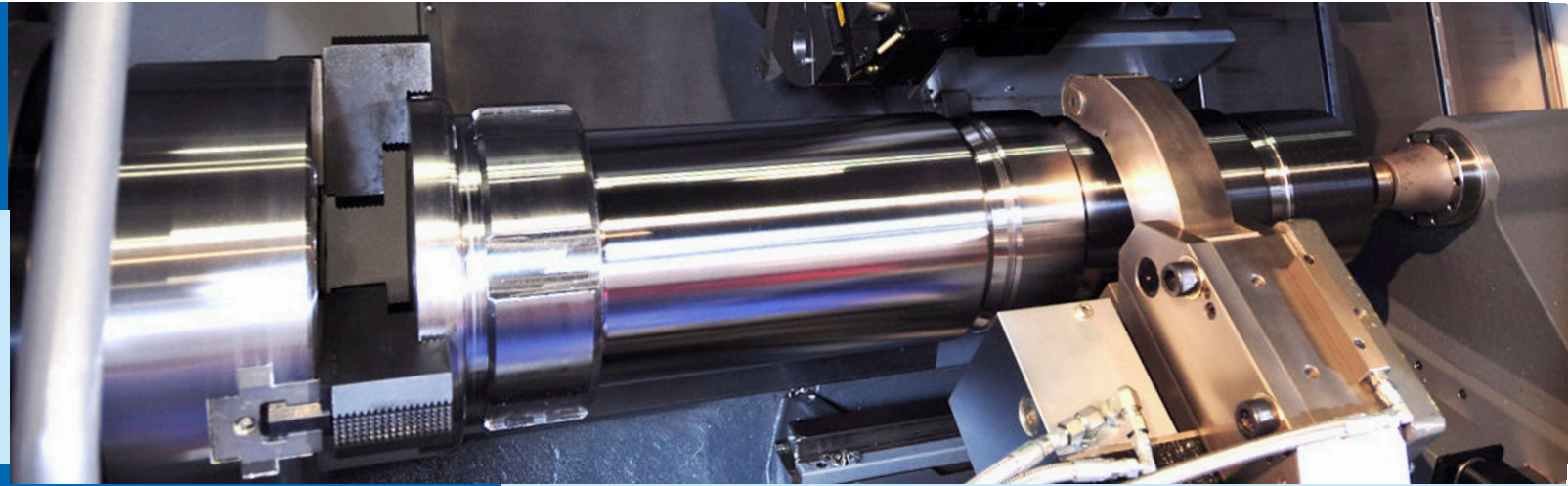
- Specially designed for crankshaft grinding
- Narrow arms
- Special provision to for web throw clearance and IPG clearance
- Available with retractable bracket mechanism



GHS

- Self centering grinding steady rest
- Rear mounted cylinder
- Hydraulically operated
- Carbide pad contacts





Complete TURNKEY Solution

Fenwick And Ravi, is the leading Self centering steady rests manufacturer, provides complete turn key solution for all your turning, milling, grinding and special applications. FAR Have Wide Range of steady rests, more than 400 models of steady rests experience of 25 years and more than 6000 products at field in different sector and different countries.

FAR have Steady rests for the following applications.

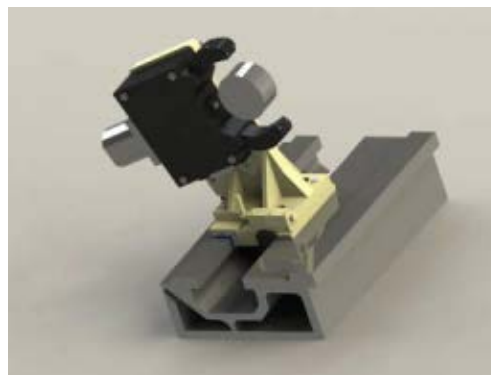
- Turning,
- Milling,
- Crankshaft
- Machining,
- Grinding,
- Crankshaft grinding,
- Friction Welding Machines,
- Induction Hardening Machines,
- Screw Cutting machines,
- Heavy weight components on Flat bed lathes

FAR can provide complete package includes.

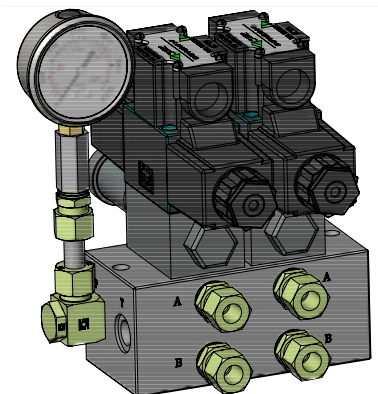
- Mounting Bracket with manual clamping Mounting bracket with hydraulic base clamping
- Mounting bracket for LM guide way machines
- Travelling Steady rest bracket
- Hydraulic Elements to operate Steady rests, Bracket
- Electrical Elements
- Lubrication system



Lubrication System



Steady Mounting Brackets



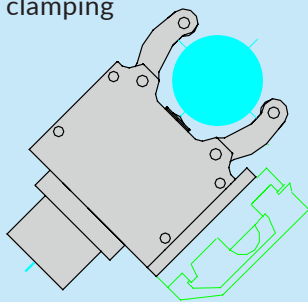
Hoses And Hyd. Elements

Technical features and Standard Equipment

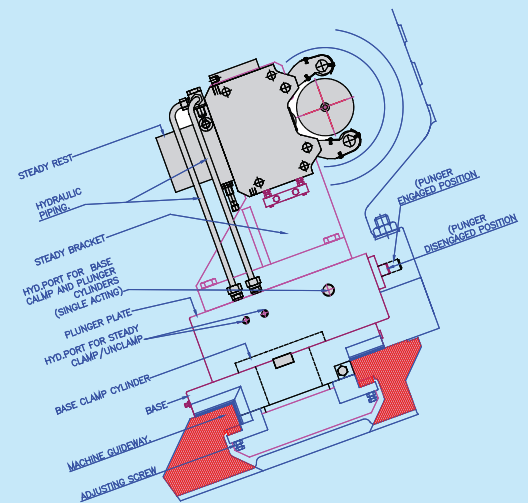
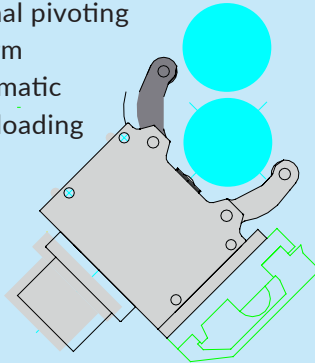
- Automatic centering to reduce cycle time and increased productivity.
- High centering accuracy.
- Replaceable sealing strips and provision for compressed air connection prevents the entry of coolant and dirt to the body of steady rests.
- All standard steady rests have provision for centralized lubrication systems.
- Actuating cylinder is provided with integral safety valve ensure support of the work piece under sudden pressure drops.
- These are based on special cam design, which is proved in the field.
- Adjustable 3 piece chip guard for outer rollers with minimum reduction of clamping range.
- Positive opening of the steady rest is ensured by precisely engineered opening mechanism
- Compact and robust designs allow the machine tool to be used under optimum conditions.
- Special rollers, which have multiple sealing disks, imported from Europe are used for the steady rests.
- Actuating cylinder can be operated either hydraulically or pneumatically.
- These steady rests can be mounted either on slant or flat bed lathes. Rigid and precisely made brackets ensure centering accuracy.
- All internal and outside parts are case hardened and ground to ensure highest precision and reliability.
- Middle roller and roller pocket is protected against dirt by a roller stripper.
- These are suitable for fixed as well as traveling applications.
- Optional provision for manual lubrication can be provided.

Salient Features

Large clamping range



Additional pivoting upper arm for automatic vertical loading



Option of Rollers

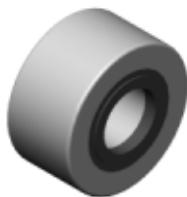
FAR steady rollers with special sealing ensure highest precision and service life.

The steady rollers are consumable item, and need to replace..

FAR provide different type of out side rollers depends up on the component and process, which are mainly, cylindrical rollers, spherical roller, narrow roller, etc.



NARROW ROLLER



CYLINDRICAL ROLLER

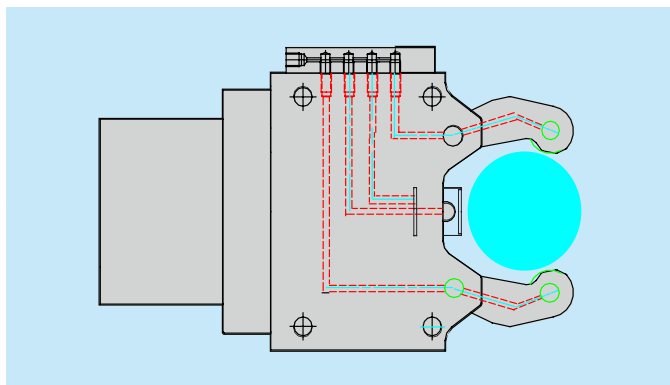


SPHERICAL ROLLER



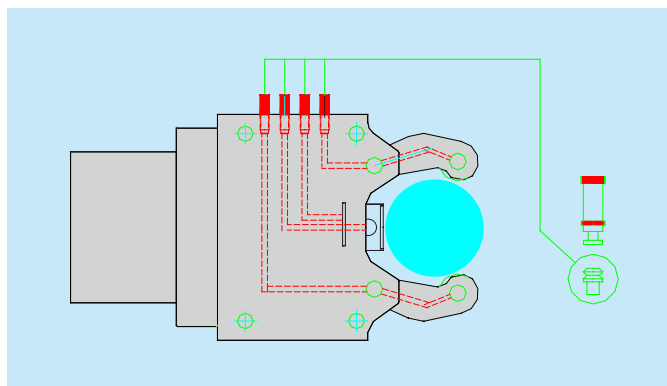
SPERICAL ROLLER

Steady Rest Lubrication



Central Lubrication

This lubrication system is used in heavy working conditions and high build of swarf as well as traveling steady rest applications. The steady rest is provided with a lubricating connection to supply the oil to the lubricating points and rollers through metering cartridges. The pressure required for the lubricating pump is 10-30 bar.

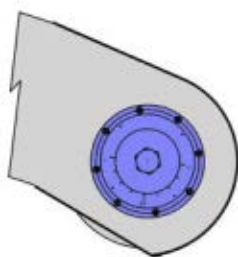


Manual Lubrication

This lubrication system is used for light duty working conditions and low building of swarf. The lubrication points and rollers are supplied with grease through grease nipple and grease gun. Steady Lubrication schedule depends on the working conditions normally every 4-8 operating hours.

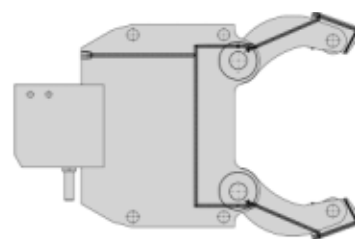
Grease: 'DIN 51402'

Eccentric Fine Adjustment - Option



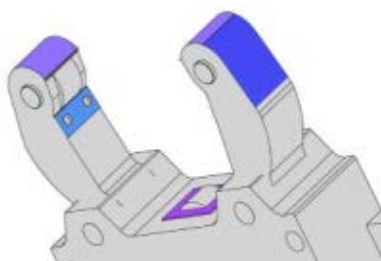
Eccentric roller pins on the two arms of the steady rest allow a quick fine adjustment of centre line. This provision helps to avoid unlocking of the steady rest on the bracket for small adjustments.

Coolant/ Air Supply - Option



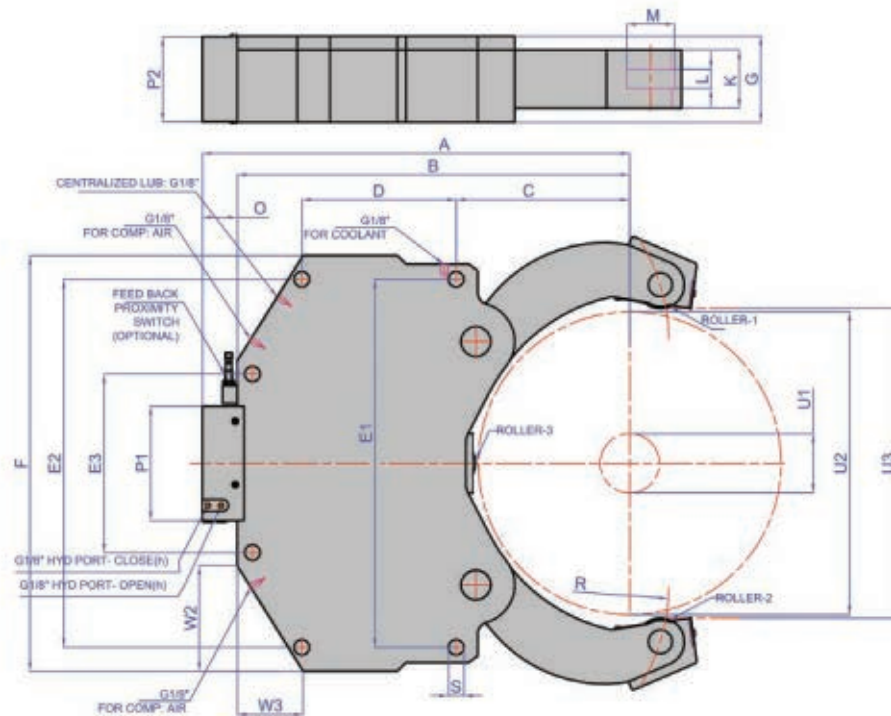
To avoid interference of chips with rollers and work piece an optional built-in channel on the steady rest feeds coolant or air from a central connecting port to the arms of steady rest.


3-Piece Swarf Guard



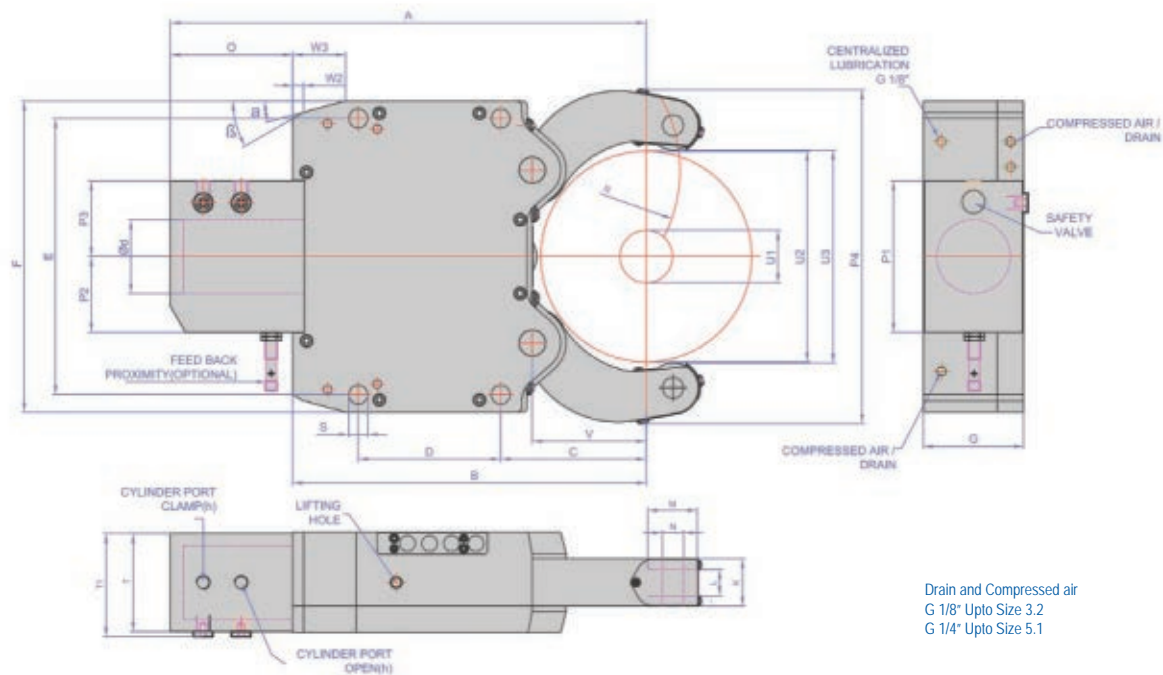
3 piece replaceable swarf guards made from special material protects the rollers and other internal parts from the dirt and swarf during the machining.

Model: FRC




STEADY REST TYPE		FRC1216	FRC3025	FRC4532	FRC8536	FRC1043	FRC1447	FRC1051	FRC2568	FRC4587
 FRC Ultra compact steady rest Pressure Booster Provision for Proximity feedback Provision for Automatic Lubrication.	A	334	434	509	537	622	647.5	707	847	1244
	B	290	380	465	493	578	603.5	661	803	1200
	C	115	146	178	208.5	280	305.5	292.5	415	640
	D	135	155	210	210	220	220	260	312	400
	E1	262	365	400	400	510	510	620	700	1100
	E2	262	365	400	400	510	510	620	470	1100
	E3	670
	F	315	438	500	500	600	600	700	760	1200
	G	90	110	145	145	145	145	145	165	198
	K	53	53	68	68	98	98	98	98	118
	L	25	25	29	29	29	29	32	32	75
	M	47	52	62	72	80	80	80	100	160
	O	44	54	44	44	44	44	59	44	44
	P1	158	158	172	172	194	194	194	194	260
	P2	89	109	144	144	144	144	144	144	197
	R	116	168	215	235	280	300	325	430	606
	S	18	23	23	23	26	26	26	35	35
	W2	45	132	105	100	160	158	179	188	254
	W3	45	83	101.5	97	74	104	101	108	135
Centering range	U1	12	30	45	85	100	140	100	250	450
	U2	160	255	320	360	430	470	510	680	870
Max.Axial opening	U3	164	260	325	365	435	475	515	685	875
Cylinder Bore.	d	40	40	50	50	60	60	60	60	
Hyd. Connection.	h	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"	G1/8"
Operating pressure. Min/Max	bar	20-70	20-70	20-70	20-70	20-60	20-60	20-60	20-60	20-60
Max.clamp force/roller.	daN	3000	4500	5500	5500	6800	6800	6800	6800	9200
Centering accuracy	mm	0.04	0.04	0.06	0.06	0.06	0.06	0.1	0.1	0.2
Repeatability.	mm	0.005	0.005	0.005	0.005	0.01	0.01	0.02	0.02	0.02
Weight Approx.	kg	45	73	148	143	195	234	252	370	1337

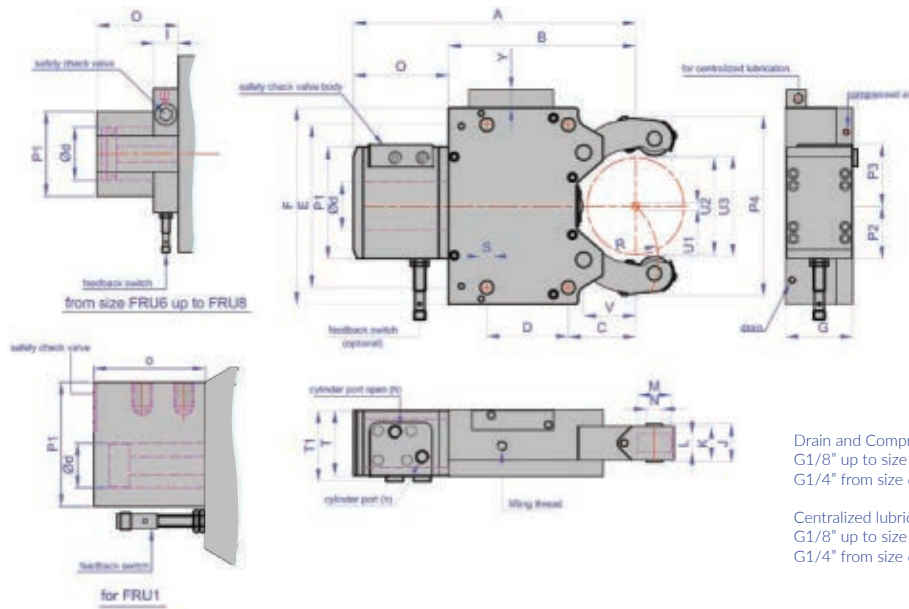
Model: FRUN



Drain and Compressed air
G 1/8" Upto Size 3.2
G 1/4" Upto Size 5.1

STEADY REST TYPE		FRUN1	FRUN2	FRUN3	FRUN3.1	FRUN3.2	FRUN4	FRUN5	FRUN5.1
 <p>Standard Features:</p> <ul style="list-style-type: none"> Fully sealed body Safety Valve Provision for max. opening feedback 1 set swarf guard 3-piece Provision for compressed air connection Provision for centralized lubrication 	A	214.5	277	428	436	451	603	697	717
	B	149	195	312	320	335	448	510	530
	C	52	70	115	123	138	146	178	198
	D	66	85	135	135	135	240	270	270
	E	140	170	262	262	262	365	400	400
	F	160	195	295	295	295	405	440	440
	G	63	75	95	95	95	110	145	145
	K	28	35	45	45	45	60	75	75
	L	15	19	25	25	25	25	29	29
	M	24	35	47	47	47	52	62	62
	N	8	15	20	20	20	25	30	30
	O	65.5	82	116	116	116	155	187	187
	P1	95.5	122	144	144	144	164	174	174
	P2	37.5	61	72	72	72	82	87	87
	P3	58	61	72	72	72	82	87	87
	P4	142	194	292	291	315	399	465	502
	R	55	69.5	115.5	124	124	172	209	229
	S	11	14	18	18	18	23	23	23
	T	57	69	93	93	93	108	140	140
	T1	62	74	98	98	98	113	147	147
	V	41	51	85	93	108	128	160	180
Centering range	W2	5	11.2	10	10	10	18.3	19	19
	W3	20	30	50	50	50	58	62	62
	β	45	30	30	30	30	40	40	40
	α	15	15	15	15	15	15	18	18
	U1	6	8	12	20	50	30	45	85
	U2	70	101	152	165	200	245	310	350
Max.Axial opening	U3	75	106	162	170	202	253	318	352
Cylinder Bore.	d	30	50	70	70	70	90	100	100
Hyd. Connection.	h	1/8" BSP	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Operating pressure. Min/Max	bar	6--50	8--70	8--80	8--80	8--80	8--80	8--80	8--80
Max.clamp force/roller.	daN	100	450	1000	1000	1000	1700	2000	2000
Centering accuracy	mm	0.02	0.02	0.04	0.04	0.04	0.04	0.06	0.06
Repeatability.	mm	0.005	0.005	0.007	0.007	0.007	0.007	0.01	0.01
Max.peripheral Roller speed.	m/min	850	800	725	725	725	725	700	700
Weight Approx.	kg	10	20	48	48	48	104	174	185

Model: FRU

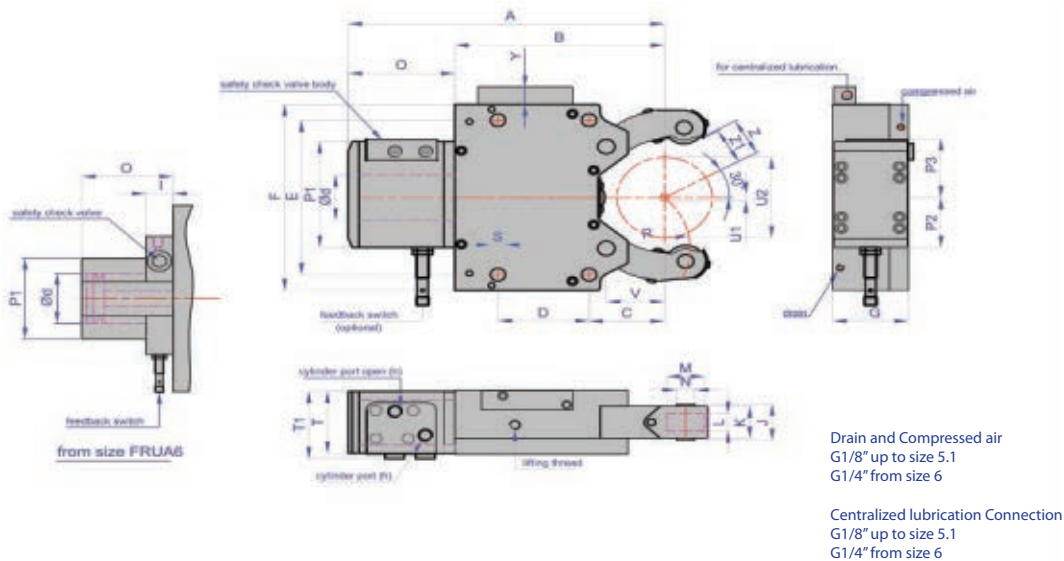



Drain and Compressed air
G1/8" up to size 5.1
G1/4" from size 6

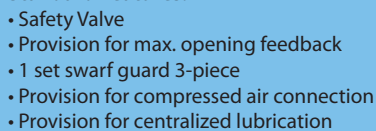
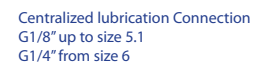
Centralized lubrication Connection
G1/8" up to size 5.1
G1/4" from size 6

STEADY REST TYPE			FRU1	FRU2	FRU3	FRU3.1	FRU3.2	FRU4	FRU5	FRU5.1	FRU6	FRU7	FRU8
	A	215	296.5	447	455	470	624	706	731.5	980	1235.5	1404	
	B	149	195	308	316	331	437	500	520	709	898	1000	
	C	52	70	115	123	138	146	178	198	215	320	375	
	D	66	85	135	135	135	240	270	270	330	440	500	
	E	140	170	262	262	262	365	400	400	610/640	650	855	
	F	160	205	290	290	290	400	450	450	680	720	930	
	G	63	70	85	85	85	110	145	145	145	162	190	
	I	-	33	37	37	37	37	37	37	46	60	60	
	J	62	42	52	52	52	67	83	83	83	96	110	
	K	28	35	45	45	45	60	75	75	75	82	100	
	L	15	19	25	25	25	25	29	29	29	32	32	
	M	24	35	47	47	47	52	62	62	80	100	100	
	N	8	15	20	20	20	25	30	30	43	55	60	
	O	70	101.5	139	139	154	187	206.5	211.5	271	337.5	385.5	
	P1	96	105	137	137	137	165	165	165	190	238	238	
	P2	38	66	92	90	90	102	102	102	115	143	143	
	P3	96	75	92	94	94	110	110	110	130	158	158	
	P4	142	188	288	292	320	415	473	509.5	732	869.5	976	
	R	55	75	115.5	124	140	172	209	236	290	390	402	
	S	11	14	18	18	18	23	23	23	27	27	35	
T	63	68	102	102	102	126	144	144	158	190	190		
V	37	60	91.5	99.5	109.5	128	160	180	182	292.5	295.5		
Y	-	19	19	19	19	19	20	20	27	27	27		
Centering range without chip guard.	U1	4	8	12	20	50	30	45	85	125	191	230	
	U2	64	101	152	165	200	245	310	350	460	530	630	
Centering range with 3 piece chip guard.	U1	4	16	16	20	50	30	45	85	125	191	230	
	U2	64	101	152	165	200	245	310	350	460	530	630	
Cylinder Bore.	d	30	50	80	80	80	100	100	100	130	150	150	
Hyd. Connection. (BSP)	h	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	
Operating pressure. Min/Max	bar	6/50	8/60	8/60	8/60	8/60	8/60	8/80	8/80	8/70	6/70	6/70	
Max. clamp force/roller	daN	100	350	1000	1000	1000	1500	2000	2000	3000	4000	4000	
Clamping press/roller at 15 bar	daN	35	100	250	250	500	500	500	500	670	900	900	
Centering accuracy over the whole clamping range	mm	0.02	0.02	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.08	0.08	
Repeatability.	mm	0.005	0.005	0.007	0.007	0.007	0.007	0.01	0.01	0.01	0.02	0.02	
Max. peripheral speed.	m/min	850	950	800	800	725	725	670	670	525	570	570	
Weight Approx.	kg	7	18.5	42	42	43	104	155	160	430	700	1300	

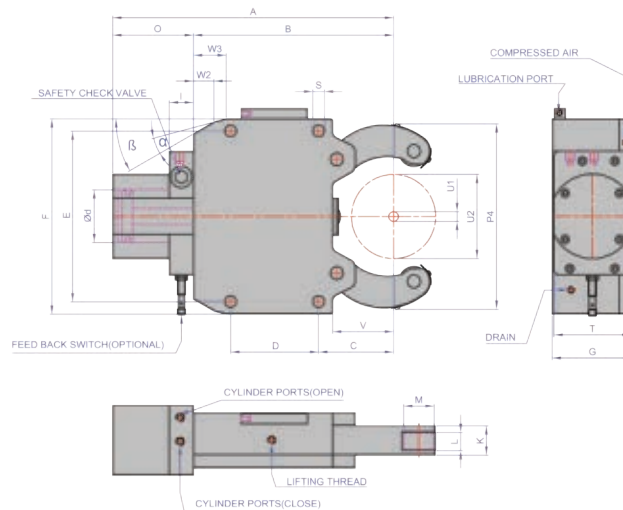
Model: FRUA




STEADY REST TYPE		FRUA2	FRUA3	FRUA3.1	FRUA4	FRUA5	FRUA6
 <p>Standard Features:</p> <ul style="list-style-type: none"> • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication 	A	296.5	447	455	609	706	980
	B	195	308	316	437	500	709
	C	70	115	123	146	178	215
	D	85	135	135	240	270	330
	E	170	262	262	365	400	610/640
	F	205	290	290	400	450	705
	G	70	85	85	110	145	145
	I	33	37	37	37	37	37
	J	-	-	-	-	-	83
	K	35	45	45	60	75	75
	L	19	25	25	25	29	29
	M	35	47	47	52	62	80
	N	15	20	20	25	30	43
	O	100	139	139	189	206	271
	P1	105	137	137	165	168	200
	P2	66	92	90	102	102	120
	P3	75	92	94	110	110	135
	R	75	115.5	124	172	209	290
	S	14	18	18	23	23	27
	T	68	102	102	126	144	158
	V	60	91.5	99.5	128	160	175
	Y	19	19	19	19	20	19
Centering range with 3 piece chip guard	U1	8	12	20	30	48	160
	U2	80	130	150	220	268	460
Centering accuracy over the whole clamping range.	U1	16	20	20	30	48	160
	U2	80	130	150	220	268	460
	Z	41	55	76	111	135	230
	Z1	34	54	74	106	130	225
Cylinder bore.	d	50	80	80	100	100	130
Hyd. Connection. (BSP)	h	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
Operating pressure. Min/Max	bar	8/60	8/60	8/60	8/60	8/60	8/70
Max. clamp force/roller	daN	350	1000	1000	1500	2000	3000
Clamping press./roller at 15 bar	daN	100	250	250	500	500	670
Centering accuracy over the whole clamping range	mm	0.02	0.04	0.04	0.05	0.06	0.06
Repeatability	mm	0.005	0.007	0.007	0.007	0.01	0.01
Max. peripheral speed.	m/min	950	725	725	725	700	525
Weight Approx.	kg	18.5	42	48	104	160	430

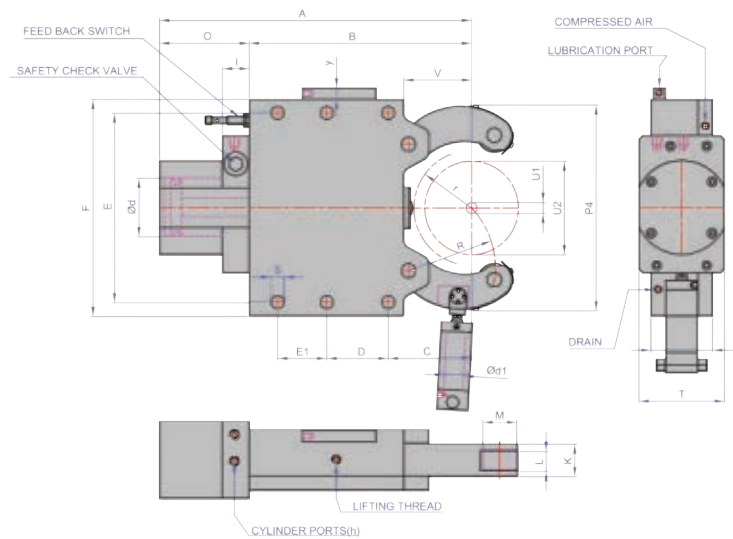
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Model: COMPRESS SIZE STEADY REST (CS)



STEADY REST TYPE.		CS2	CS3	CS4	CS4.1	CS5	CS5.1	CS6	CS6.1
 <p>Standard Features:</p> <ul style="list-style-type: none"> • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication 	A	410	443	612	612	753	763	816	815
	B	315	335	450	490	607	617	670	680
	C	120	150	168	198	230	240	215	245
	D	120	140	180	180	240	240	330	300
	E	270	312	360	360	445	445	610	610
	F	295	345	400	400	485	485	680	680
	G	75	104.4	124	124	146	150	150	150
	K	35	45	60	60	75	75	75	75
	L	19	25	25	25	29	29	29	29
	M	35	47	52	52	62	62	80	80
	O	95	88	132	122	146	146	146	135
	P4	306	384.5	453	503	574	596	706.7	752
	R	124	153	193	222	265	265	285	295
	S	14	18	23	23	23	23	27	27
	T	73	105	125	125	150	150	138	150
	V	98	125	147	177	207	215	185	215
	W2	26	10	100	110	130	130	150	155
	W3	51	40	62	60	51	51	77	87
	β	35	30	30	30	30	30	30	30
	a	10	15	15	15	15	15	15	20
Centering range with chip guard	U1	25	65	52	90	80	100	135	215
	U2	180	235	280	330	390	410	460	510
Cylinder bore.	d	50	70	90	90	100	100	120	120
Hyd. Connection.(BSP)	h	1/4"	3/8"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
Operating pressure.(Min/Max)	bar	8-60"	8-80	8-70	8-70	8-80	8-80	8-80	8-80
Max. Clamp force /roller.	daN	450	1000	1500	1500	2000	2000	3000	3000
Centering accuracy over the whole clamping range.	mm	0.03	0.04	0.05	0.05	0.06	0.06	0.06	0.06
Repeatability	mm	0.005	0.007	0.007	0.007	0.01	0.01	0.01	0.01
Max.peripheral roller speed.	m/min	800m/min	725m/min	700m/min	700m/min	660m/min	700m/min	700m/min	700m/min
Weight Approx.	kg	52	60	85	90	170	180	390	385

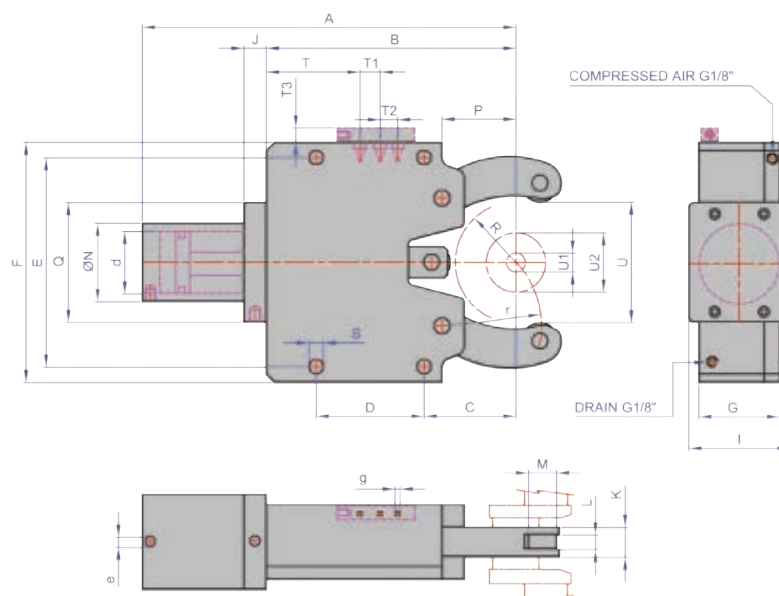
Model: HEAVY DUTY STEADY RESTS (HL)



(Component weight : 10 - 40 tonnes)

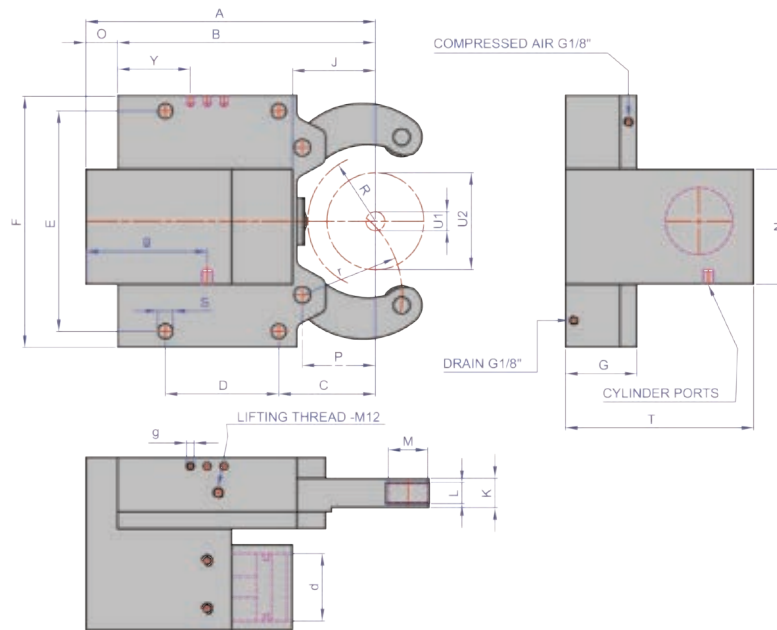
STEADY REST TYPE.		HL1560	HL80130	HS1060SAL	KRHS1540
 <p>Highlights:</p> <ul style="list-style-type: none"> • Very Heavy duty construction of steady rest. • Large rollers to handle very heavy loads (10 - 40 Tonnes) • Hydraulic support to Bottom arm for using on large flat bed lathes. • For turbine shaft, windmill shaft, marine crank shafts 	A	1471	2266	1564	1504.5
	B	1133	1760	1110	1176.5
	C	450	680	358	462.5
	D	390	310	525	365
	E	850	1440	970	760
	E1	-	310	-	-
	F	910	1500	1110	840
	G	152	306	296	150
	I	46	80	80	40
	K	82	186	186	75
	L	32	116	96	32
	M	110	270	200	110
	O	338	506	454	328
	P4	935	1729	1069	1122
	R	484.5	805	420	497
	s	27	39	34	27
	T	158	276	276	131
Centering range with chip guard	V	390	620	283	425.5
	Y	27	30	30	27
Centering range with chip guard	U1	150	600	100	150
	U2	600	1050	520	400
	d	130	200	200	100
Cylinder bore.	d1	100	200	80	80
Max. Load caring capacity	daN	10000	30000	12000	4000
Cylinder support of bottom arm	daN	1000	20000	7000	1500
Min/Max. pressure for bottom arm cylinder	daN	20/40	25/80	20/75	15/40
Hyd. Connection(BSP)	h	1/4"	1/2"	1/2"	3/8"
Operating pressure Min/Max	bar	08/70	15/80	10/60	08/115
Max. Clamp force/roller	daN	3000	8300	6500	8300
Clamp press./Roller at 15 bar	daN	700	1200	1200	500
Centering accuracy over the whole clamping range	mm	0.02	0.08	0.06	0.04
Repeatability	mm	0.01	0.01	0.01	0.01
Max.peripheral roller speed.	m/min	200	200	200	550
Weight Approx.	kg	580	3000	2200	750


Model: KRHS (For Crank Shaft Machining)



STEADY REST TYPE.		KRHS 315P	KRHS 520D	KRH-S528C	KRHS 839	KRHS 222	KRHS 422	KRSH 429	KRHS 419	KRHS 520K
 <p>Standard Features:</p> <ul style="list-style-type: none"> • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication <p>Optional Features:</p> <ul style="list-style-type: none"> • Provision for coolant flush 	A	497	620.5	730	804	279	621	621	621	613.5
	B	331	442	515	595	189	437	437	437	442
	C	138	180	178	255	70	146	146	146	180
	D	135	210	270	270	85	240	240	240	210
	E	266	330	400	400	170	365	365	365	330
	F	300	370	450	440	190	400	400	400	370
	G	80	67	102	108	57	79	79	79	70
	I	102	102	102	110	69	72	72	72	102
	J	37	40	37	37		33	33	33	36
	K	22	26	32	40	22	22	29	19	29
	L	14	16	20	20	12	13	16	10	18
	M	35	40	62	62	15	52	52	52	52
	N (dia)	137	137	147	137		122	122	122	132
	P	114.5	160	160	216.5	58.5	128	128	128	160
	Q	186	186	186	184	124	162	162	162	160.5
	r	139.5	187.5	210	252	73	172	172	172	187.5
	S	18	20	23	23	14	23	23	23	20
Clamping Ranges without chip guard	T	113	182	183	NA	57.5	—	NA	NA	170
	T1	25	27	32	NA	17	—	NA	NA	27
	T2	25	27	32	NA	17	—	NA	NA	27
	T3	NA	NA	NA	20	NA	30	19	19	NA
Clamping Ranges with chip guard	U1	40	45	70	80	8	245	30	30	50
	U2	85	100	150	200	101	260	245	245	200
Max. axial Opening	U	220	236	323	393	105	30	260	260	212
Clamping range with Chip guard	U1	40	45	70	80	8	245	30	30	50
	U2	85	100	150	200	101	260	245	245	200
	U	220	236	323	393	105	127	260	260	212
Eccentric throw (R value)	R	110	120	155	197.5	55	60	127	127	108.2
Cylinder bore.	d	80	80	80	80	50	1/4"	60	60	80
Hyd. Connection (BSP)	e	1/4"	1/8"	1/4"	1/4"	1/4"	1/8"	1/4"	1/4"	1/4"
Lubrication ports	g	M8 X 1	M8 X 1	M10 X 1	M10 X 1	1/8"	6-50	1/8"	1/8"	1/8"
Standard operating pressure	bar	6-30	6-40	1-55	6-55	5-70	55	6-50	6-50	1-40
Max.operating pressure	bar	35	45	60	60	75	56	60	60	45
Clamping press. / roller at 6 bar	daN	100	100	100	100	40	470	56	56	140
Max.clamping pressure / roller.	daN	500	740	1400	1400	450	0.04	560	560	1000
Centering accuracy over the whole clamping range.	mm	0.04	0.05	0.05	0.05	0.02	0.01	0.04	0.04	0.05
Repeatability	mm	0.01	0.07	0.01	0.01	0.005	720	0.01	0.01	0.01
Max. peripheral speed.	m/min	500	525	700	350	800	86	700	700	865
Weight Approx.	Kg	50	70	150	350	18.5	86	86	86	80

Model: KRSHS (For Crank Shaft Machining)



STEADY REST TYPE.		KRSHS 315D	KRSHS 315H	KRSHS 510	KRSHS520J	KRSHS520H
 <p>Standard Features:</p> <ul style="list-style-type: none"> • Safety Valve • Provision for max. opening feedback • 1 set swarf guard 3-piece • Provision for compressed air connection • Provision for centralized lubrication 	A	355	367	334	469	469
	B	331	363	296	447	447
	C	138	170	103	185	185
	D	135	135	135	210	210
	E	266	266	266	330	330
	F	300	300	300	370	370
	G	80	85	82	73	73
	J	108	135	83	167.5	167.5
	K	22	45	22	22	22
	L	14	25	14	14	14
	M	35	47	35	35	35
	N	-	-	-	-	-
	O	24	1.6	38	22	22
	P	108	140	73	165.2	165.2
	r	139.2	347.5	115	195.5	195.5
	S	M20X 2.5P	18	M20 X 2.5P	20	20
Clamping Ranges without chip guard	T	205	210.5	206	223.5	223.5
	Y	113	113	113	145	145
	U1	40	70	45	50	50
	U2	70	150	110	160	160
Max. axial Opening	U	216	163	155	270	270
Clamping range with Chip guard	U1	40	70	45	50	50
	U2	70	150	110	160	160
	U	216	163	155	270	270
Eccentric throw (R value)	R	108	135	81.5	136	137.2
Cylinder bore	d	50	80	51.2	80	80
Hyd. Connection (BSP)	e	1/4"	1/4"	1/4"	1/4"	1/4"
Lubrication ports	g	M8 X 1	M8 X 1	M8 X 1	M8	M8
Standard operating pressure	bar	1-35	6-40	1-30	6-30	6-30
Max.operating pressure	bar	40	45	35	30	30
Clamping press. / roller at 6 bar	daN	38	80	36	1500	1500
Max.clamping pressure / roller	daN	250	520	240	500	500
Centering accuracy over the whole clamping range	mm	0.04	0.05	0.05	0.04	0.04
Repeatability	mm	0.01	0.01	0.01	0.01	0.01
Max. peripheral speed	m/min	700m/min	715m/min	800m/min	700m/min	700m/min
Max. peripheral speed at half max. clamping press	m/min	850m/min	825m/min	950m/min	850m/min	850m/min
Weight Approx.	kg	45	50	45	75	75



Hydrostatic Steady Rest

Hydrostatic steady rests used on very large machines to support very heavy components during turning, milling, drilling etc.

- Diameter range -150mm to 1100mm.
- Component weight- 10 tonnes to 90 tonnes.
- Complete package including steady rest, hydraulic power pack.



THM Series of Steady Rests

These steadies mainly used in screw cutting and thread cutting machines. It can be used on Milling and turning centers.

Model	Clamping range		Width of Roller	Type of clamping
	Minimum	Maximum		
THM316	30	165	235	Rollers
THM4016	40	160	200	Carbide Pads
THM512	50	120	130	Rollers
THM3550	350	500	242	Rollers



Heavy Duty Manual Steady Rests

Heavy duty Manual steady rests used on very large machines to support very heavy components during turning, milling, drilling etc.

- Diameter range -100mm to 1200mm.
- Component weight- 15 tonnes to 30 tonnes.
- Provision for motorised Axial movement along the guide way
- Contact Point will be White metal or Rollers

Steady rest type	MS2080	MS6012	MS15T	MS25T
Clamping range	Dia.200mm --dia.800mm	Dia.600mm --dia.1200mm	Dia.100mm --dia.400mm	Dia.200mm --dia.400mm
Weight carrying capacity	20t	20t	15t	25t
Actuation	Manual clamp/unclamp	Manual clamp/unclamp	Manual clamp/unclamp	Manual clamp/unclamp
No: of quills	4nos	4nos	3nos	3nos
Contact pad type	Babbitt	Babbitt	Babbitt	Babbitt
Lubrication	Automatic	Automatic	Automatic	Automatic
Base clamping	Automatic hydraulic base clamp	Automatic hydraulic base clamp	Manual hydraulic base clamp	Manual hydraulic base clamp
Axial movement along the guide way	Motorized	Motorized	Manual	Manual

Other Popular Steady Models



SHS Models

STEADY MODEL	Minimum Dia (mm)	Maximum Dia (mm)
SHS8060	80	600
SHS1040	100	400
SHS1050	150	500
SHS2555	250	560
SHS3080	300	800

Other models are available on request.



FRU/FRUB SP Series

STEADY MODEL	Minimum Dia (mm)	Maximum Dia (mm)
FRE2	8	80
FRE2 SP7	17	55
FREB/FREB3	20	130
FRU3.1SP1	20	170
FRUB4SP8	30	256
FRE4/FREB4	35	240
FRUB4SP2	60	280
FRU4SP3	60	280
FREB6SP1	60	400
FRE5/FREB5	75	310
FRUB4SP3	150	315
FRU4SP2	200	300
FRUB4SP4	200	300
FREAB6SP2	200	500

Other models are available on request.

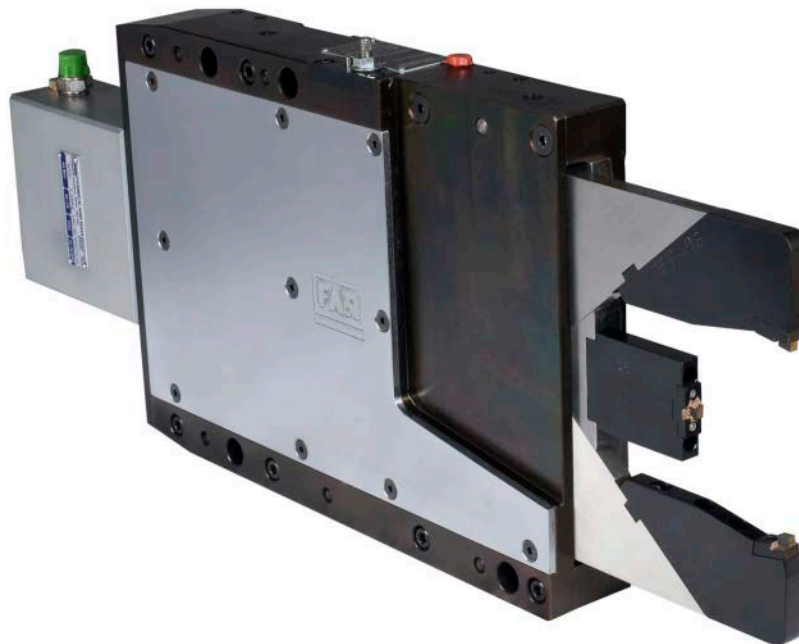


Steady Rest- Spares Ordering Code

Item	FRU1	FRU2	FRU3	FRU3.1
Swarfguard-3PCS	FRU1-01-018-4	FRE2-01-032	FRU3-01-036-4	FRU3-01-036-4
Roller stripper *	N/A	FRE2-01-017A	FRU3-01-016A-4	FRU3.1-01-010A-4
Out side Roller	FRU1-01-017	FRE2-01-006	FRU3-01-035-4	FRU3-01-035-4
Seal Kit	FRU1-02-004(4)	FRU2-02-014(4)	FRU3-02-015-4 (6)	FRU3-02-015-4 (6)
Wiper for arms	FRU1-01-017(2)	FRU2-01-006(2)	FRU3-01-034-4 (2)	FRU3-01-034-4 (2)
Proximity sensor	FRU1-02-005(1)	FRU2-02-002(1)	FRU2-02-002-4 (1)	FRU2-02-002-4 (1)
Lubrication Catridge	N/A	FRU2-01-004	FRU3-01-028-4	FRU3-01-028-4

Item	FRU3.2	FRU4	FRU5	FRU5.1
Swarfguard-3PCS	FRU3-01-036-4	FRU4-01-0334	FRU5-01-032-4	FRU5-01-032-4
Roller stripper *	FRU3.1-01-010A-4	FRU4-01-026-4	FRU5-01-010-4	FRU5.1-01-010-4
Out side Roller	FRU3-01-035-4	FRU4-01-032-4	FRU5-01-031-4	FRU5-01-031-4
Seal Kit	FRU3-02-015-4 (6)	FRU4-02-011-4 (6)	FRU4-02-011-4 (6)	FRU4-02-011-4 (6)
Wiper for arms	FRU3-01-034-4 (2)	FRU4-01-034-4 (2)	FRU5-01-032-4 (2)	FRU5-01-032-4 (2)
Proximity sensor	FRU2-02-002-4 (1)	FRU2-02-002-4 (1)	FRU2-02-002-4 (1)	FRU2-02-002-4 (1)
Lubrication Catridge	FRU3-01-028-4(1)	FRU4-01-028-4	FRU5-01-020-4	FRU5-01-020-4

Steady Rests - Grinding Steadies



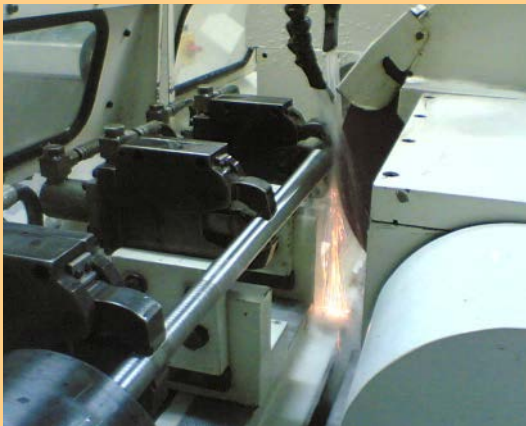


Steady Rests for Grinding

FAR has developed an entire range of pad type self centering steady rests for cylindrical grinding machines. FAR has also provided several custom made solutions to suit customers in process gauging components and machines.

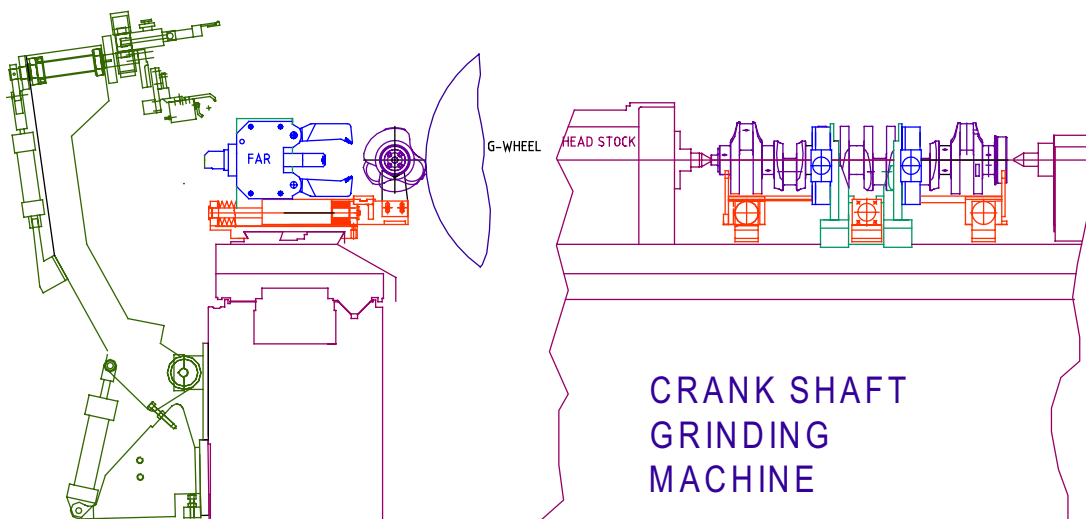
Salient Features

- 3 point steady rest with carbide pad support
- Greater accuracy for today's tolerance limit
- Models for crank shaft, and cam shaft
- Less down time for steady rest adjustment
- The follow - down operation allows all supporting pads to move toward center as the part size diminishes. This feature provides continuous support while the part is being ground
- Pass through grinding
- Easy retro fitting in ordinary cylindrical grinders
- Actuation from simple hydraulic power pack of machine using manual/PLC solenoid operated DC valve
- More parts per hour
- Increase grinding wheel life
- Custom models to meet your exact application
- Vertical loading by gantry for special models

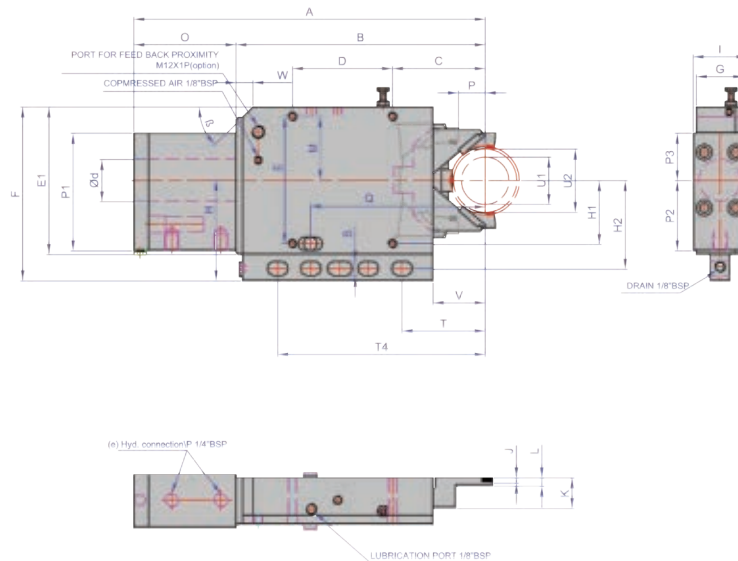


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|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS | This series is specially designed with retractable arms for easy vertical loading of jobs in hydraulic cylindrical grinding machine |
| KRGU | This series is specially designed for crank shaft grinding to accommodate the maximum eccentric throw and journal diameter of crank shafts. Custom made design are available to accommodate in-process gauge and vertical loading. |
| GHS | This series is for all standard grinding applications such as cylindrical grinding, camshaft grinding, camlobe grinding etc., We also manufacture custom design to accommodate in-process gauge. |

Steady with Job Sliding Arrangement



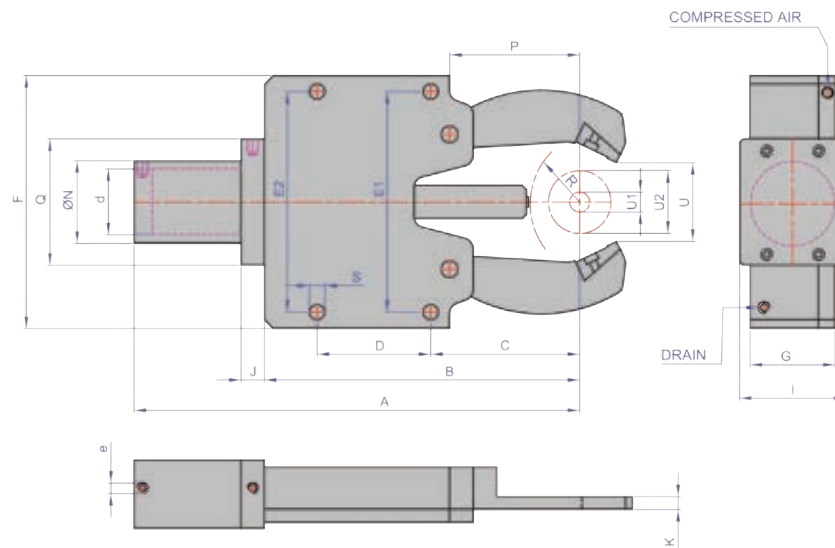
Model: AS (Steady Rest With Retractable Arms)



Steady Rest Type		AS125	AS235	AS260	AS460	AS6011	AS5514
 <p>AS This series is specially designed with retractable arms for easy vertical loading of jobs even in hydraulic cylindrical grinding machines.</p>	A	338.5	333.5	355	333.5	675.5	650
	B	236.5	236.5	236.5	236.5	536.5	565
	C	88	88	88	88	175	295
	D	95	95	95	95	260	135
	E	121	121	121	121	254	254
	E1	140	140	140	140		
	F	165	165	165	165	285	285
	G	45	45	45	45	69	65
	H	95	95	95	95	142.5	142.5
	H1	60.5	60.5	60.5	60.5		
	H2	84	84	84	84		
	I	51	51	51	51	62.5	64
	J	5	5	5	5	5	5
	L	10	8	8	8	12	10
	K	19	29	29	29	26	23
	M	60.5	60.5	60.5	60.5		
	O	102	97	97	97	139	85
	P	33.5	28.5	28.5	28.5		
	P1	92.5	92.5	92.5	92.5		
	S	13.5	13.5	13.5	13.5	M16	M16
	T	79	79	79	79		
	T4	197	197	197	197		
	V	49.5	49.5	49.5	49.5	140	185
	W	16	16	16	16	48.5	96.5
Centering Ranges	U1	10	20	20	45	60	55
	U2	25	35	60	60	115	142
Cylinder bore	d	40	40	40	40	50	40
Hyd. Connection. (BSP)	e	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Standard operating pressure	bar	4-25	4-25	4-25	4-25	10-35	4-35
Max. operating pressure	bar	30	30	30	30	40	40
Centering accuracy over the whole clamping range	mm	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability	mm	0.002	0.002	0.002	0.002	0.002	0.002
Weight Approx.	kg	35	35	35	35	55	60

*Other models are available on request.

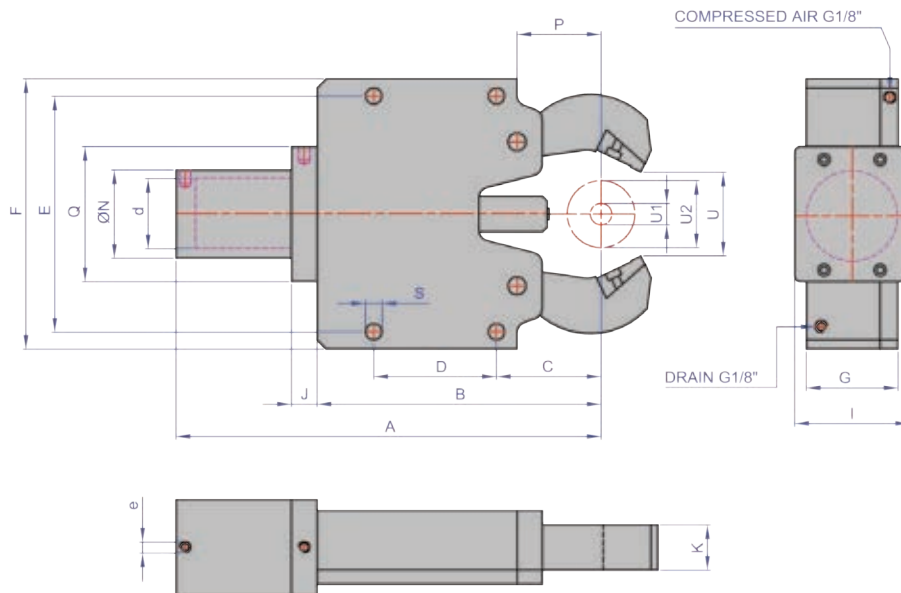
Model: KRGU (Crank Shaft Grinding Application)



Steady Rest Type		KRGHS790	KRGU1517	KRGU4510	KRGHS9585	KRGU502	KRGU580	KRGU1019
 <p>KRGU Series This series is specially designed for crank shaft grinding to accommodate the maximum eccentric throw and journal diameter of crank shafts. Custom made design are available to accommodate in-process gauge and vertical loading.</p>	A	420	518.5	465	590.5	508.5	565.5	502
	B	323	423	358	444	405	462	355.5
	C	190	230	165	254	236	293	162
	D	90	135	135	142	125	125	135
	E1	202	262	262	350	337	234	262
	E2	202	262	262	320	337	234	262
	F	234	290	290	400	363	260	290
	G	55	64	57	64	62	62	64
	I	62	68	68	72	68	68	72
	J	25	33	33	25	33	33	25
	K	10	16	10	21	10	12	24
	N	53	105	119	95	-	105	95
	P	158.4	206.4	141.5	194.5	206.8	268.4	133.4
	Q	96	141	148	130	141	141	130
	S	M12 X 1.75	14	18	18	22/14	20/14	18
Clamping Ranges	U1	70	150	45	95	50	50	100
	U2	90	170	105	185	102	80	190
Max. axial Opening	U	98	181	125	210	109	106.5	226
Eccentric throw (R value)	R	120	122	125	286	205	205	175
Cylinder bore.	d	40	50	50	60	50	50	60
Hyd. Connection. (BSP)	e	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Standard operating pressure	bar	4-15	6-30	6-30	12-45	6--30	6-30	12-45
Max. operating pressure	bar	20	35	35	60	35	35	60
Max. clamp pressure/pad.	daN	60	196	196	425	196	196	425
Centering accuracy over the whole clamping range.	mm	0.005	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability	mm	0.002	0.004	0.004	0.004	0.002	0.004	0.004


*Other models are available on request.

Model: GHS (Standard Grinding Application)



GHS Series

This series is for all standard grinding applications such as cylindrical grinding, camshaft grinding, camlobe grinding etc., We also manufacture custom design to accommodate in-process gauge.

Steady Rest Type		GHS260E	GHS260H	GHS1012A	GHS103
	A	241.5	221.5	463	241.6
	B	146.5	146.5	312	146.5
	C	56	56	115	73.5
	D	65	65	135	35
	E	128	128	262	106
	F	146	146	300	123
	G	44	44	85	50
	I	44	44	85	50
	J	23	-	25	23
	K	32	20	45	20
	N	44	-	-	-
	P	46.5	46.5	93.5	44
	Q	96	82.5	110	105
	S	M12 X 1.75P	M12 X 1.75P	18	14.5/9
Clamping Ranges	U1	20	15	10	12
	U2	60	45	120	29
Max. axial Opening	U	63	48	125	30
Cylinder bore.	d	30	30	50	30
Hyd. Connection. (BSP)	e	1/4"	1/4"	1/4"	1/4"
Standard Operating Pressure	bar	2-15	2-10	2-20	5-18
Max. Operating pressure	bar	18	15	25	42
Clamp. Press./Pad at 6 bar	daN	24	25	100	25
Max. clamp pressure/Pad.	daN	100	100	1000	100
Centering accuracy over the whole clamping range.	mm	0.01	0.005	0.01	0.02
Repeatability	mm	0.002	0.002	0.003	0.003
Weight Approx.	kg	7	7	42	7

*Other models are available on request.

Special Steadies



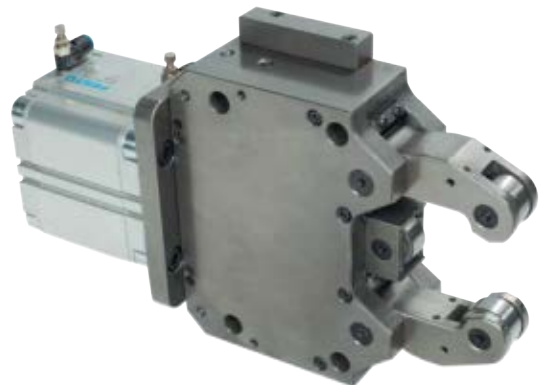
2-Point Hydraulic Self Centering Grinding Steady



Steady Rest With Vertical Arm Opening



2-Point Manual Large Steady Rest for Grinding



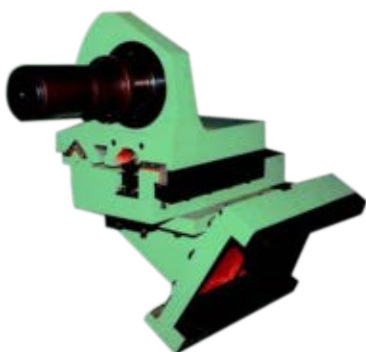
Pneumatic Steady Rest



Heavy Duty Steady Rest



Steady Rest For Turret Mounting With Rotary Joint



Ring Steady Rest For Shell Machining (Ordnance)



Steady Rest With Tilted Roller





FAR has been in the fore front of manufacturing barfeeders for many years. Bar feeders have become the best automation devices. These devices can add hours of untended operating time for part volumes of a few hundred to tens of thousands. FAR manufacture mainly two different types of barfeeder namely:

Versys Feed: VF15

Quick Feed: QF12, QF15

The Versys Feed is the worlds first fully automatic short servo barfeeder. The compact design of Versys features unmatched versatility with improved speed and accuracy .

Our Versatile Bar Feeder system VerSys VF, which completely Eliminates setup change over time like Pusher/Pushrod manual changing, Bar stock centre adjustment etc. This will tremendously save machine down time. Also bar changeover time is less than 15 seconds.

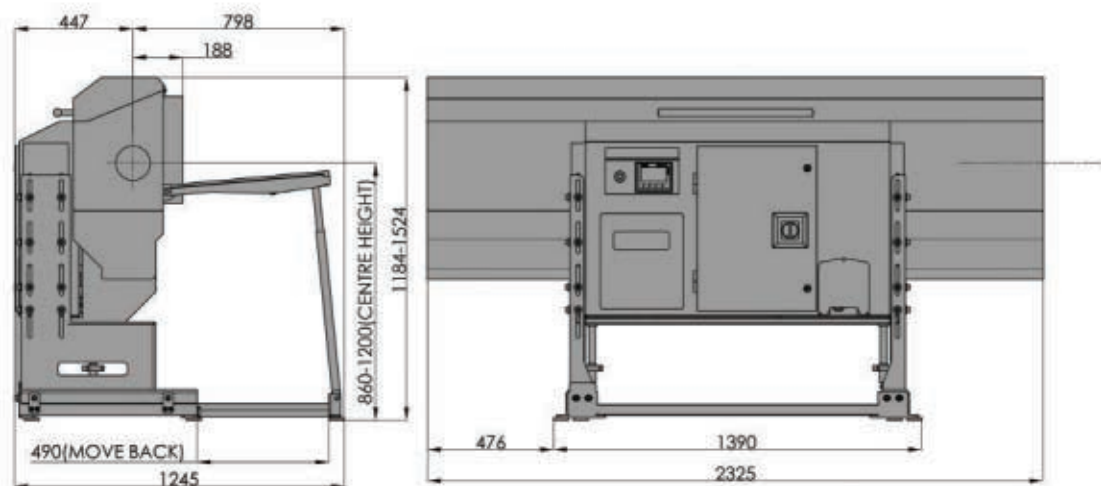
The QF short barfeeders have become industry standard and are known for their rugged build and reliable operation. These are manufactured in hydraulic, pneumatic, and servo variants.

FAR has launched the QF swing all electric barfeeder which is easy to setup and operate. This is a very economically priced model.



Spindle Extension Unit

Model: VerSys Feed Barfeeder



Model: VF 15



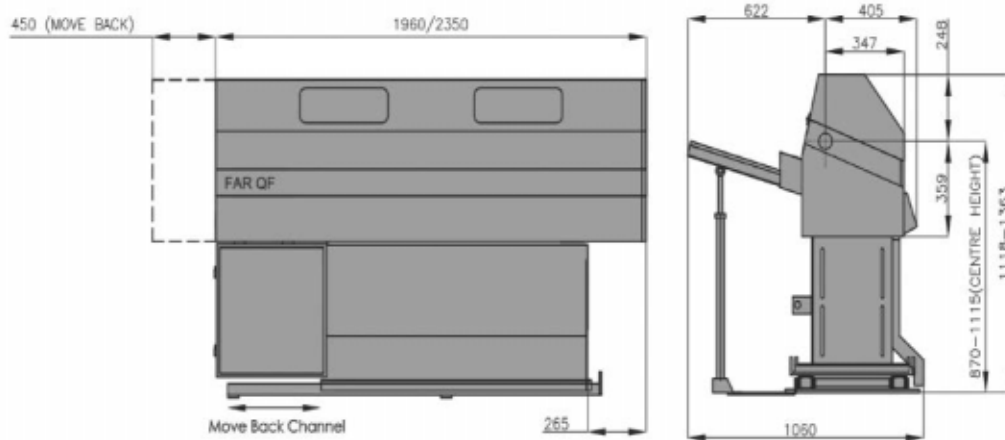
Key Features

- Ultra fast automatic bar change over
- Double axis servo control system
- Fully automatic performance
- Highly reliable and flexible
- Great Sustainability
- User friendly HMI display

Worlds First Fully Automatic Short Servo Barfeeder

VERSYS FEED VF		
SPECIFICATION	VF 12	VF 15
Bar diameter capacity	6 -75 mm	6 -75 mm
Bar length	Upto 1200mm (Depends on spindle length)	Upto 1500mm (Depends on spindle length)
Working axis height	860 mm to 1200mm	860 mm to 1200mm
Straightness of bar	No restrictions	No restrictions
Capacity of material rack	Dia 10 mm - 50 Nos.	Dia 10 mm - 50 Nos.
Bar preparation	A deburr is enough	A deburr is enough
Bar positioning	By Servo through program / Turret stopper	By Servo through program / Turret stopper
Overall length	2325 mm	2325 mm
Overall Width	1245 mm	1245 mm
Control	Programmable Logic Controller/Servo	Programmable Logic Controller/Servo
Power supply	415VAC, 10 A	415VAC, 10 A
Main frequency	50Hz	50Hz
Control voltage	24V DC	24V DC
Installed power	1 kW	1 kW

Model: Quick Feed Barfeeder (Short Magazine)



Model: QF 12/15 Hydraulic / Pneumatic

- * Feeding by Hydraulic/Pneumatic.
- * Easy to setup
- * High productivity
- * Economically priced



QUICK FEED QF		
SPECIFICATION	QF 12	QF 15
Bar diameter capacity	6 -65 mm	6 -65 mm
Bar length	Upto 1200mm(Depends on spindle length)	Upto 1500 mm(Depends on spindle length)
Working axis height	885 mm to 1200mm	885 mm to 1200mm
Spindle speed	No restrictions	No restrictions
Straightness of bar	No restrictions	No restrictions
Capacity of material rack	Dia 25 mm - 30 Nos.	Dia 25 mm - 30 Nos.
Bar preparation	A deburr is enough	A deburr is enough
Guiding	Throgh reduction tube inside the spindle	Throgh reduction tube inside the spindle
Feeding	By hydraulic pusher	By hydraulic pusher
Overall length	1960mm	2200mm
Overall Width	1072 mm	1072 mm
Weight	400 kg	400 kg
Control	Programmable Logic Controller	Programmable Logic Controller
Power supply	415V	415V
Main frequency	50Hz	50Hz
Hydraulic oil	Servo system-32, 50 Ltrs	Servo system-32, 50 Ltrs
Operating Pressure	10 bar	10 bar

ZERO POINT SYSTEMS

Another exceptional automation from FAR



Salient Features

- Easily suitable for manual and automatic Loading / Unloading of Machines.
- Upto 90% saving on Machine set-up time.
- Very versatile. Can be used for an innumerable range of applications on a wide range of machines.
- Reduction of rejection from better control of the Loading process
- Suitable for controlling Multiple Machines
- Tremendous saving in Trained and Costly manpower
- Big saving in Machine cycle time due to reduced Tool changes.
- High repeatability <0.01

Quick Change Clamping Systems

Job-Clamping on Machines involves two very critical functions

1. Accurate Positioning of the Component
2. Rigid clamping of the Job.

The make both these Clamping requirements in a Single Swift reliable operation. Hence up to a 90% saving is possible on Job setting and loading times.



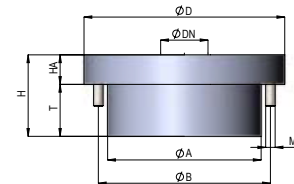
STANDARD MODELS

Hydraulic - Standard Models

MODEL	CLAMPING FORCE	OPERATING PRESSURE	REPEATABILITY	WEIGHT	BLOWOUT
ZP5	5KN	30-35 Bar	0.01 mm	0.5 kg	OPTIONAL
ZP10	10KN	15-20 Bar	0.01 mm	5 kg	OPTIONAL
ZP20	20KN	30-35 Bar	0.01 mm	5.5 kg	OPTIONAL
ZP40	40KN	50-55 Bar	0.01 mm	6.5kg	OPTIONAL

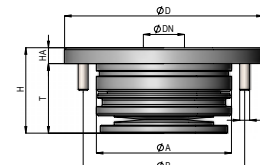
Dimensions - Standard Units

MODEL	ØD	ØDN	ØA	ØB	M	H	HA	T
ZP5	75	15	55	63	M4	28	8	20
ZP10	135	22	94	111	M8	60	32	28
ZP20	150	32	111	128	M8	60	25	35
ZP40	170	40	130	147	M8	69	25	44



Integral Models

MODEL	CLAMPING FORCE	OPERATING PRESSURE	REPEATABILITY	WEIGHT	BLOWOUT
ZP10 SP	10KN	15-20 BAR	0.01 mm	0.8 kg	OPTIONAL
ZP20 SP	20 KN	30-35 BAR	0.01 mm	1.5 kg	OPTIONAL

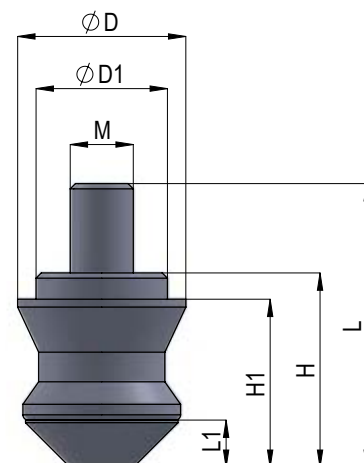
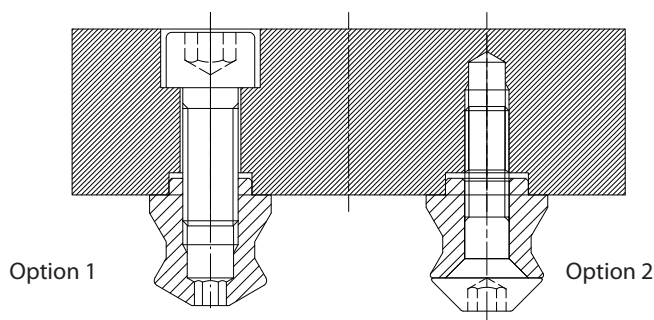


Dimensions - Integral Models

MODEL	ØD	ØDN	ØA	ØB	M	H	HA	T
ZP10 SP	100	22	68	82	M5	43	8	35
ZP20 SP	120	32	85	100	M6	52	10	42

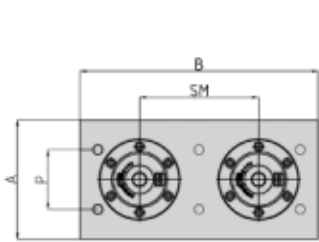
Pull Studs

MODEL	ØD	ØD1 j6	M	L	L1	H	H1
ZP5	15	10	M6/M8	25/29	3.4	16.1	13.6
ZP10	22	15	M8/M10	37/41	6	25	22
ZP20	32	25	M12/M16	53/63	8	36	31
ZP40	40	25	M16/M18	70/72	10	39	44

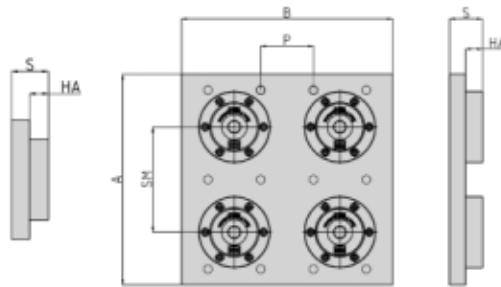


ZPS Stations

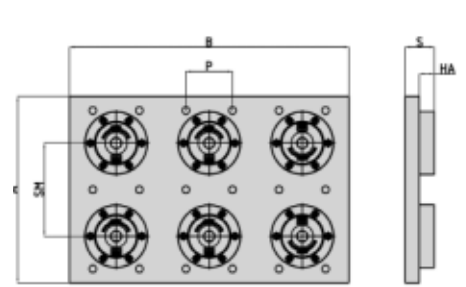
Models	A (mm)	B (mm)	SM (mm)	S (mm)	HA (mm)	P (mm)	Clamping force(KN)	Weight (Kg)
ZP10.2	200	400	200±0.02	62	32	*	2 X 10	25
ZP10.4	400	400	200±0.02	62	32	*	4 X 10	50
ZP10.6	400	600	200±0.02	62	32	*	6 X 10	75
ZP20.2	200	400	200±0.02	60	25	*	2 X 20	28
ZP20.4	400	400	200±0.02	60	25	*	4 X 20	52
ZP20.6	400	600	200±0.02	60	25	*	6 X 20	78
ZP40.2	300	600	320±0.02	70	25	*	2 X 40	60
ZP40.4	600	600	320±0.02	70	25	*	4 X 40	120
ZP40.6	600	900	320±0.02	70	25	*	6 X 40	200



2 Station

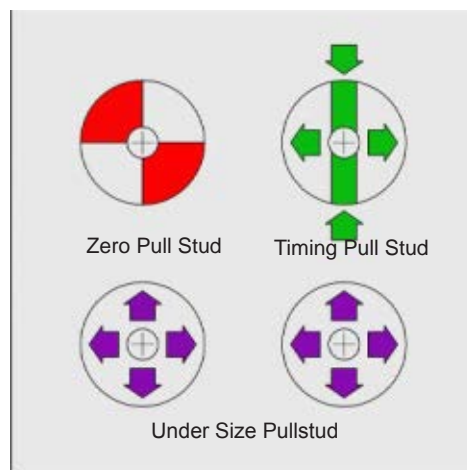


4 Station



6 Station

Pullstud Arrangements

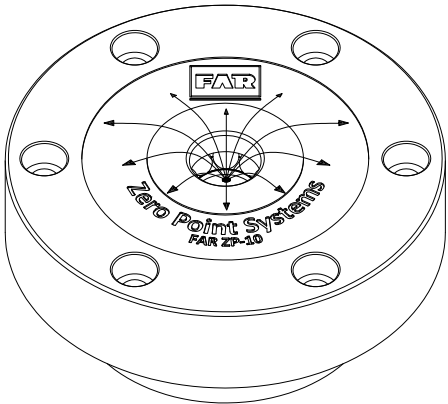
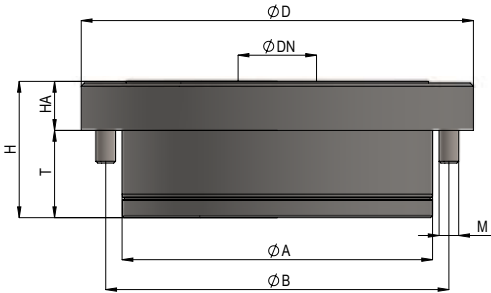


ZPS Pneumatic Model

MODEL	CLAMPING FORCE	OPERATING PRESSURE	REPEATABILITY	WEIGHT	BLOWOUT
ZP5 P	1.5KN	4-6 Bar	0.01 mm	0.5 kg	OPTIONAL
ZP10 P	10KN	4-6 Bar	0.01 mm	2.5 kg	OPTIONAL

Dimensions - Pneumatic Model

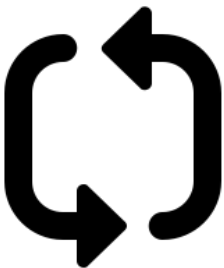
MODEL	D	DN	A	B	M	H	HA	T
ZP5 P	90	15	67	73	M4	29	8	21
ZP10 P	130	22	98	110	M6	35	10	25



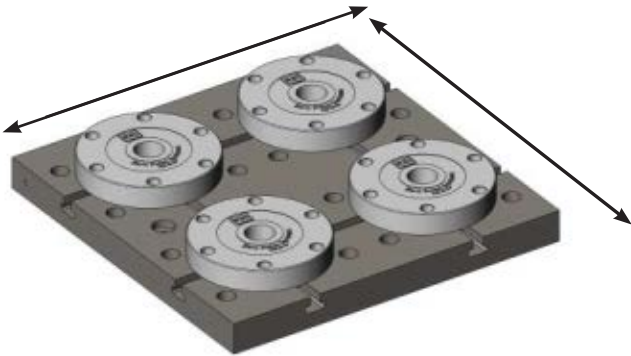
Blow out for Chip Removal



Rust Free Stainless Steel



Feed back for aditional Safety



Variable center distance



Angular Mill Heads

FAR Angle Mill Head is an accurate device precisely used on NC and CNC machine tools, especially on machining centers. The angle heads are designed to execute machining operations that the horizontal or vertical machine tools are unable to perform the operation except with special jigs and fixture arrangements.

The angle head hikes up the perception of innovative features of machining process, productivity and reduces the machine down time and reduce fixture arrangements, these qualities will have a positive impact in increasing the machining accuracy.

Since the work piece once loaded will not be altered frequently until the end of the machining process. The milling angle heads can be easily attached to the traditional machining centers with manual and automatic tool change

FEATURES

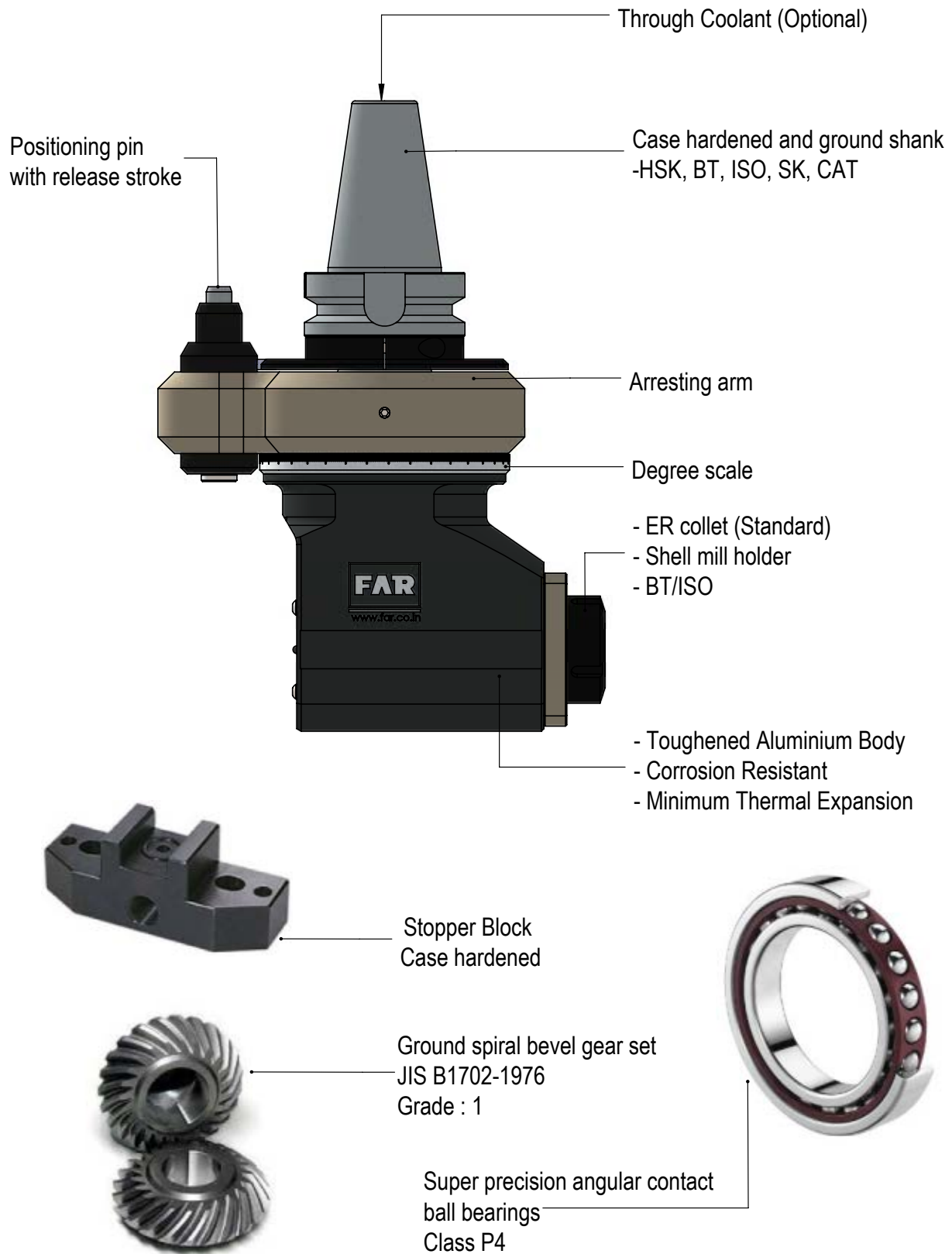
- These Mill heads with precision bearings and superior bevel gears will provide an excellent strength and precision in cantilever machining operations.
- Spindles are supported by pairs of pre loaded angular contact ball bearings.
- Designed for superior heat dissipation and for sustained periods of high speed operations.

OPTIONS

- Speed
- Positioning pin with locking arrangement for ATC
- Special pitch from adapter to positioning pin
- Special length from gauge plane
- Multi point flange instead of single positioning pin
- Coolant provision

ANGULAR MILL HEAD

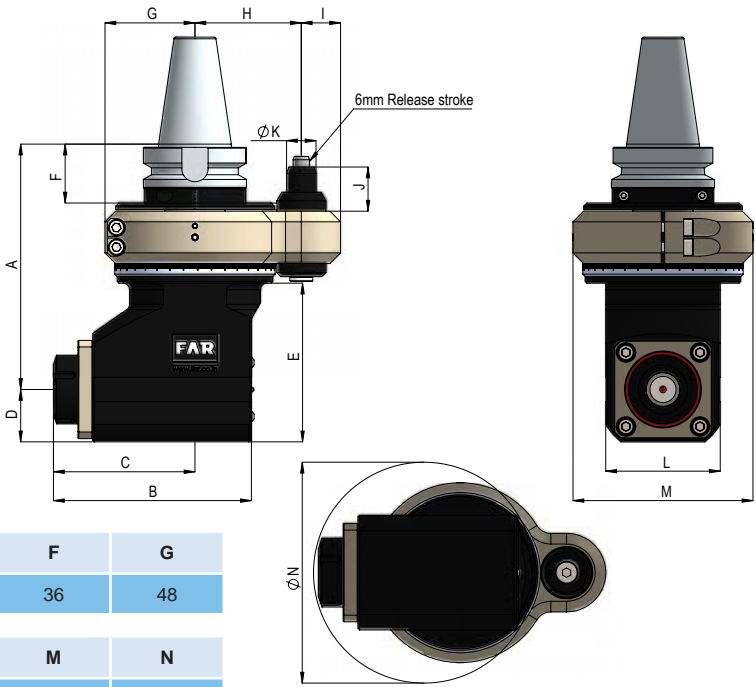
FAR Angular mill head with super precision spindle class bearings and ground spiral bevel gears will provide an excellent machining accuracy



MODEL - MH-FXA-ER16-BT40-150

SPECIFICATIONS	
OUTPUT COLLET	ER 16
INPUT SHANK	BT40
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	12 Nm
TOOL RANGE (dia)	1-10 mm
MAX. TAP SIZE	M8
WEIGHT	5Kg

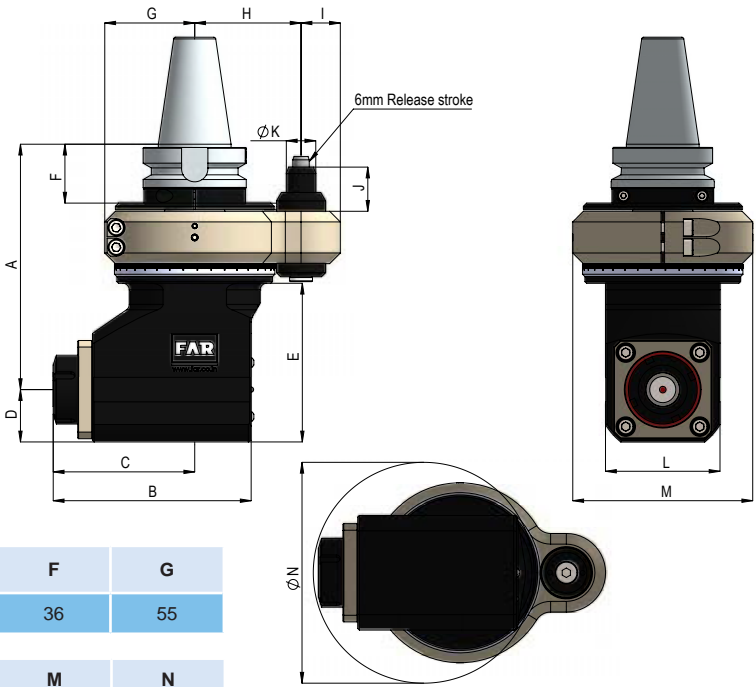
A	B	C	D	E	F	G
150	100	66	28	97	36	48
H	I	J	K	L	M	N
65	21	27	18	55	96	102



MODEL - MH-FXA-ER25-BT40-150

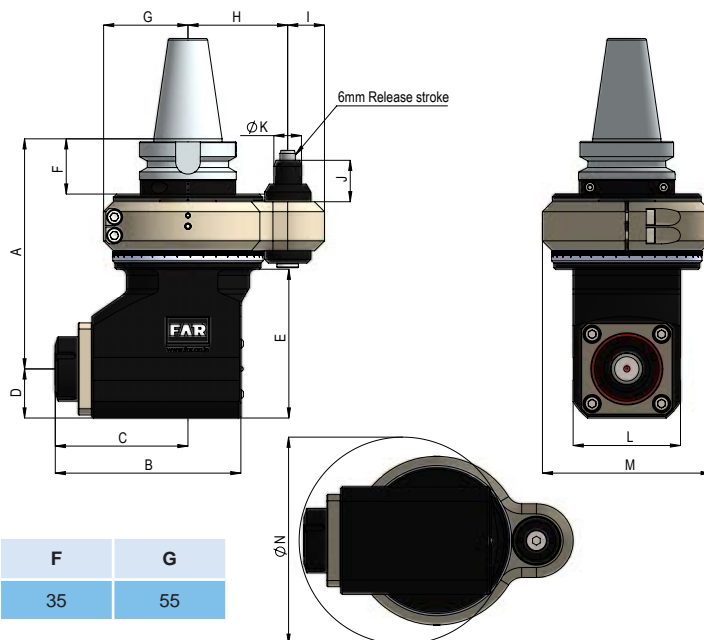
SPECIFICATIONS	
OUTPUT COLLET	ER-25
INPUT SHANK	BT40
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	35 Nm
TOOL RANGE (dia)	2-16 mm
MAX. TAP SIZE	M12
WEIGHT	6Kg

A	B	C	D	E	F	G
150	121	86	32	98	36	55
H	I	J	K	L	M	N
65	24	27	18	70	110	135



MODEL - MH-FXA-ER32-BT40-150

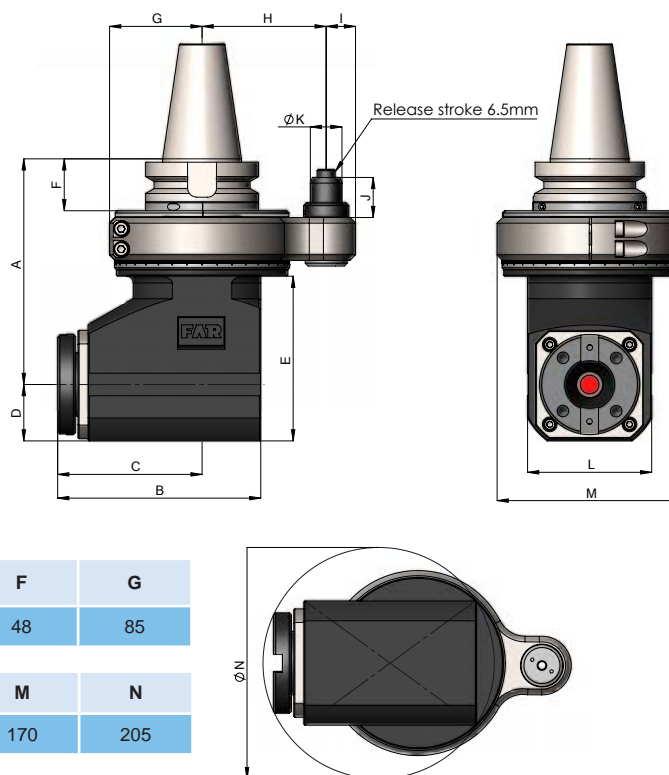
SPECIFICATIONS	
OUTPUT COLLET	ER 32
INPUT SHANK	BT40
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	45 Nm
TOOL RANGE (dia)	3-20 mm
MAX. TAP SIZE	M16
WEIGHT	7Kg



A	B	C	D	E	F	G
150	138.5	104	35	105	35	55
H	I	J	K	L	M	N
65	25	27	18	70	110	152

MODEL - MH-FXA-ISO40-BT50-200

SPECIFICATIONS	
OUTPUT COLLET	ISO40
INPUT SHANK	BT50
GEAR RATIO	1:1
SPEED	2500 rpm
TORQUE	150 Nm
TOOL RANGE (dia)	2-26 mm
MAX. TAP SIZE	M20
WEIGHT	22Kg

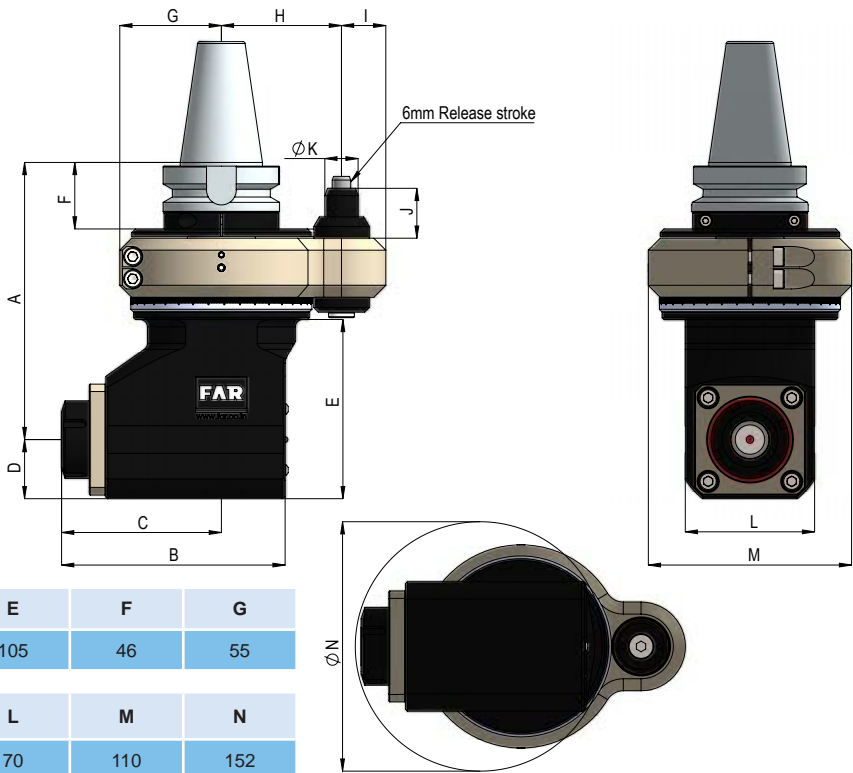


A	B	C	D	E	F	G
200	180	128	50	155	48	85
H	I	J	K	L	M	N
110	26	30	28	110	170	205

MODEL - MH-FXA-ER32-BT50-160

SPECIFICATIONS	
OUTPUT COLLET	ER 32
INPUT SHANK	BT50
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	45 Nm
TOOL RANGE (dia)	3-20 mm
MAX. TAP SIZE	M16
WEIGHT	10Kg

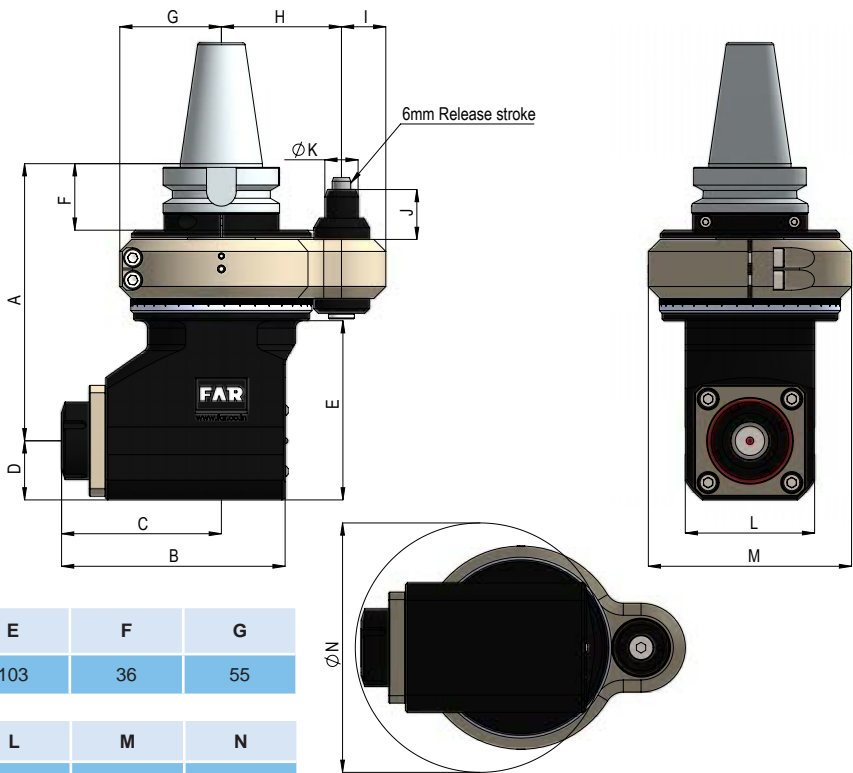
A	B	C	D	E	F	G
160	138.5	104	35	105	46	55
H	I	J	K	L	M	N
80	25	27	18	70	110	152



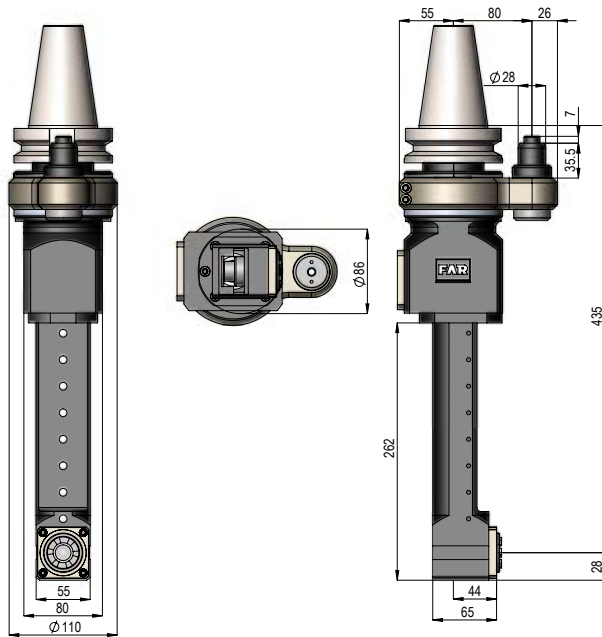
MODEL - MH-FXA-MA32-BT40-SP1

SPECIFICATIONS	
OUTPUT COLLET	MILL ARBOR 32
INPUT SHANK	BT40
GEAR RATIO	1:1
SPEED	2500 rpm
TORQUE	35 Nm
COOLANT PRESSURE	5 BAR
WEIGHT	6.8Kg

A	B	C	D	E	F	G
155	147	112.5	32	103	36	55
H	I	J	K	L	M	N
65	24	27	18	70	110	160

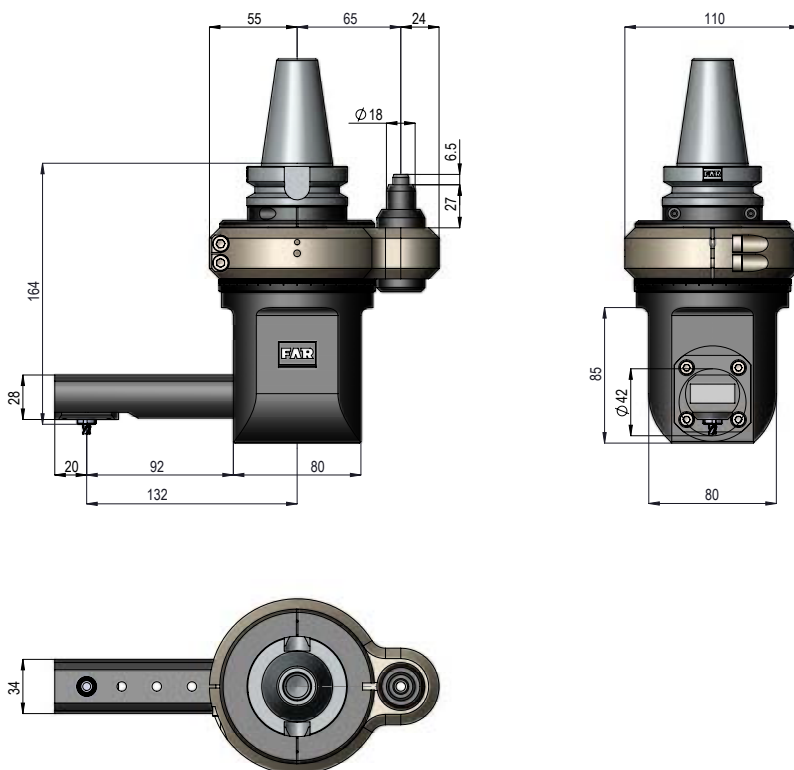


MODEL - MH-FXA-ER25-BT50-SP1



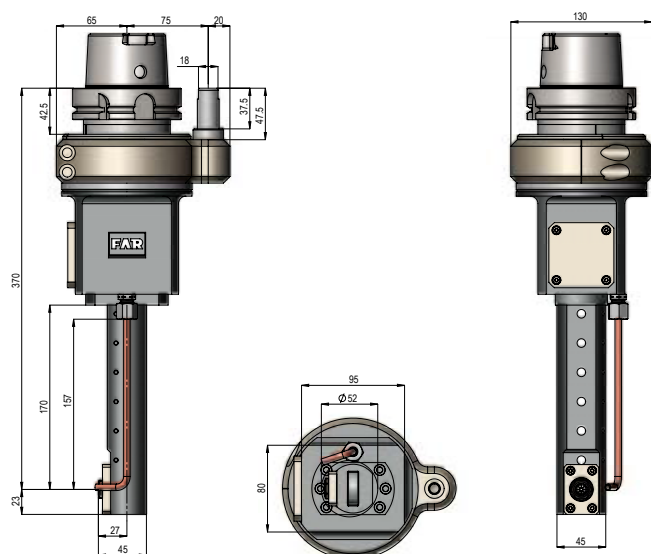
SPECIFICATIONS	
OUTPUT COLLET	ER 25
INPUT SHANK	BT50
GEAR RATIO	1.5:1
SPEED	4000 rpm
TORQUE	10 Nm
TOOL RANGE (dia)	2-16 mm
MAX. TAP SIZE	M12
WEIGHT	15 Kg

MODEL - MH-FXA-ER8-BT40-SP3



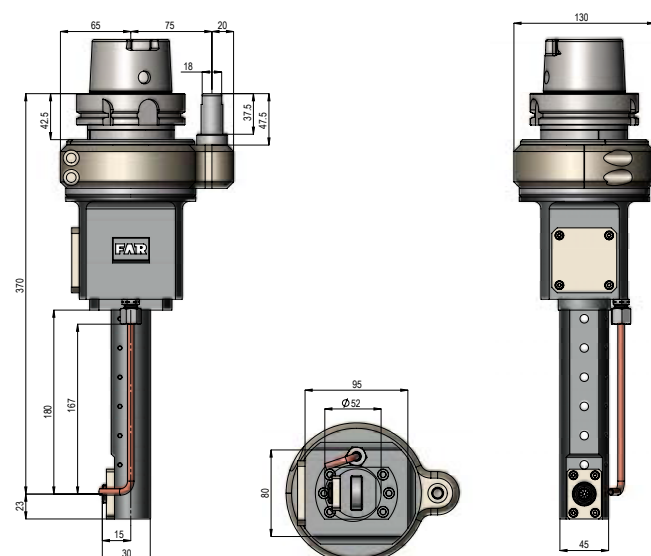
SPECIFICATIONS	
OUTPUT COLLET	ER 8
INPUT SHANK	BT40
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	1.5 Nm
TOOL RANGE (dia)	1-5 mm
MAX. TAP SIZE	M12
WEIGHT	7.5 Kg

MODEL - MH-FXA-ER11-HSKA100-SP1



SPECIFICATIONS	
OUTPUT COLLET	ER 11
INPUT SHANK	HSKA100
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	4 Nm
TOOL RANGE (dia)	1-7 mm
MAX. TAP SIZE	M6
WEIGHT	14 Kg

MODEL - MH-FXA-ER8-HSKA100-SP1



SPECIFICATIONS	
OUTPUT COLLET	ER 8
INPUT SHANK	HSKA100
GEAR RATIO	1:1
SPEED	4000 rpm
TORQUE	1.5 Nm
TOOL RANGE (dia)	1-5 mm
MAX. TAP SIZE	
WEIGHT	12.8 Kg

DUAL OUTPUT ANGULAR MILL HEAD

Features:

- Performs two machining operations in opposite direction.
- Different tool size can be used.
- Flexible gauge plane length.
- Standard collet output.
- Maximum torque: 150 Nm
- Speed : 4000 rpm
- Gear Ratio: 1:1

Dual output Angular mill head perform two different operations in opposite direction with different tool size or same.

It will reduce the setting time in machine and improve the flexibility, Accuracy in multiple operations.



UNIVERSAL HEAD

UNIVERSAL ANGLE MILL HEAD

- Ideal for machining at different angles.
- Standard collet output.
- High transmission torque.
- Speed - 4000 rpm.
- Gear Ratio - 1:1

Features:

- Universal angular mill head have the angular adjustable working spindle within the range 0°- 90° to the machine spindle. Zero stands with the axis of the machine spindle (straight direction), while the extreme angle of 90° represents the upright position of the working spindle to the machine spindle.
- The main body is possible to turn within the range 0°- 360° equally to the fixed angle head F90 series.
- The output spindle can be adjusted in any position, which makes possible to machine any arbitrary oriented surface.



Project division of FAR

The special project division commenced its operation in 2011 with a focus of providing service which includes design,
Manufacturing assembly as per specific customer request.

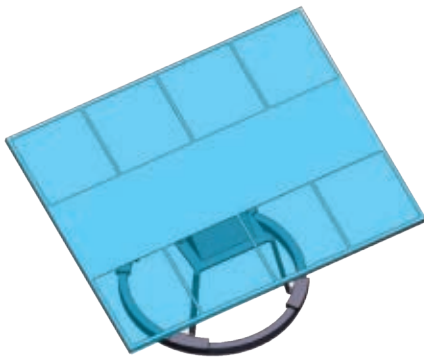
This division is equipped with:

Machining centers | jig boring machines | wire cut edm | cnc turning centers | cylindrical and surface
Grinding machines | monitoring and measuring devices includes cmm for inspection

We take up manufacturing of:

Precision components | components with assemblies | fabrication | design and fabrication of test rigs |
Hydraulic assemblies | aero space components.

Industrial Projects



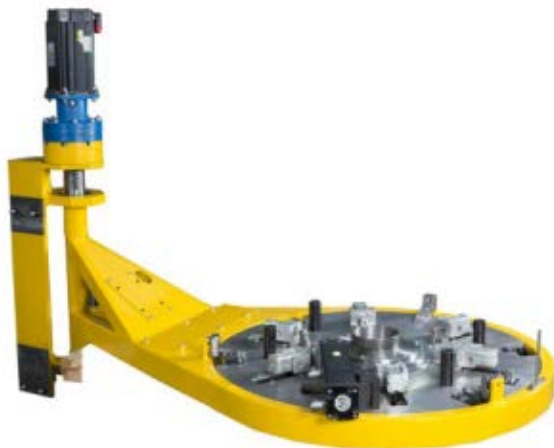
Dual Axis Solar Tracker

- We provide hydraulic and electro-mechanical methods of tracking
- Upto 36 kW Solar structures, with a maximum size of 18m X13m (144 PV modules)
- Turnkey solutions integrated with PLC and LDR sensors.



Rotary Actuator

Used in Steel Plants | 181000 Nm Torque



SPM's Assemblies

Following customized sub assemblies for leading like Tire building SPM manufacturer & other OEM.

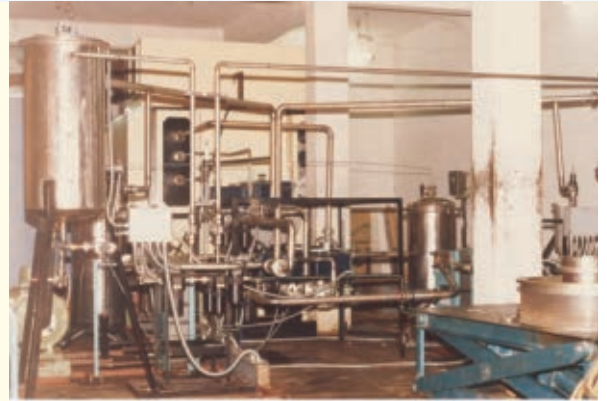




Sliprings & Rotary Joints

FAR manufactures sophisticated Sliprings and Rotary joints for various applications such as military, machinery, wind power, etc. We can handle fluid joints, RF rotary joints as well as electrical sliprings. FAR can design and supply custom built rotary joint assemblies.

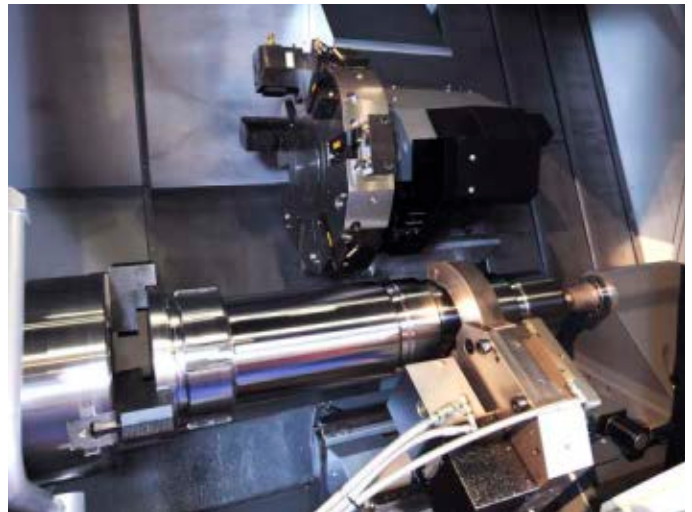
Running-in Rig for Aircraft Fuel Pump

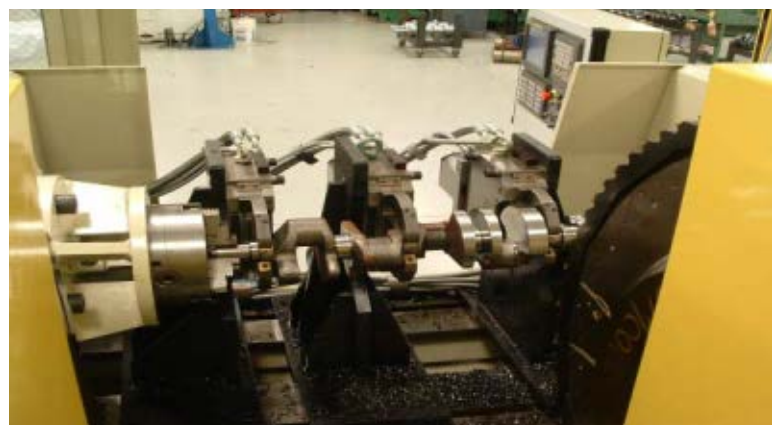
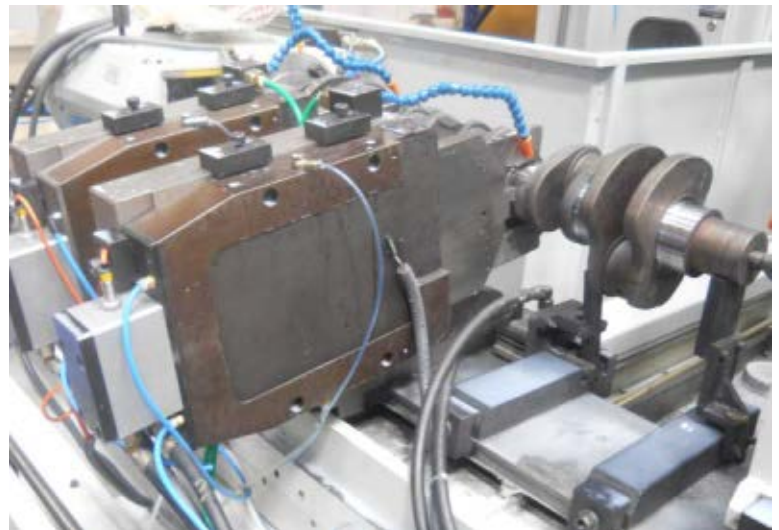


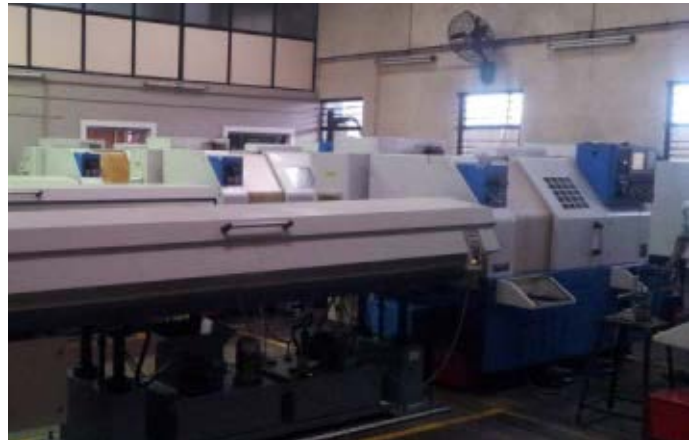
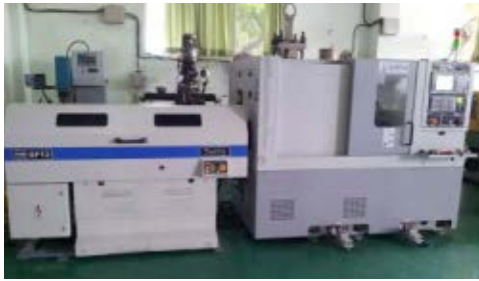
Electro mechanical Actuator

Components for Aerospace Industry













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