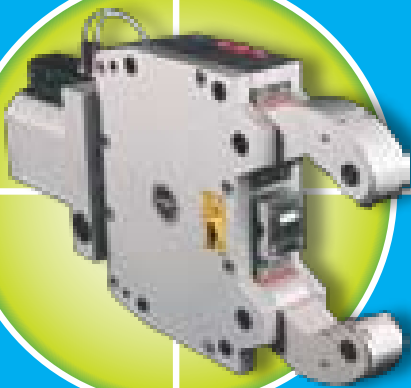




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PRECISION AT ITS BEST

COMPANY PROFILE & PRODUCT CATALOGUE 2007



An ISO 9001 Certified Company



The beautiful city of Bangalore is the capital of Karnataka state in south India. It is called the "Garden City of India" because of its many parks and lakes that dot the city, is also known as "The Silicon Valley", "The Cosmopolitan City". It is said to be the fastest growing city in India and Asia.

Located 1000 metres above sea level Bangalore is one of the most happening places in India. Bangalore is the home of International Businesses, Educational Institutes and colleges. It is also the IT capital of India. People from all parts of India and many parts of the World call it their home.



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Our Mission

Indigenous development and supply of critical accessories for machine tools

Our Vision

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



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. Situated on a 1 acre facility with about 22,000 sq. ft. of built up area.

FAR specialises in the manufacture of Barfeeders and Self Centering Steady Rests for CNC turning center, special purpose machines like crank web milling, crank shaft oil hole drilling, crank pin milling, cylindrical grinding, crank shaft grinding, cam shaft grinding etc.

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 customised 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. FAR products are compatible with machines like, Haas, Deawoo, Takisawa, Morisesieki, Mazak, KIA, Huindai, Landis, Schaudt, TOSS, along with other Indian machines.

Since 2004 onwards FAR exports its product to countries like Italy, France, USA, Canada, Brazil, Middle east, Australia, China, Taiwan, Thailand, Turkey etc.

We at FAR believe high quality products and the price advantage are the key to success in a keen competitive market. FAR has a vision to be among the top manufactures of machine-tool-accessories in the world and is working resolutely towards achieving that goal.



The senior management and the production team at a weekly planning meeting.





The People behind FAR

FAR had its birth when Fenwick Thomas a BTech in Electronics and R. Ravi a BE in Mechanical, college mates from Trivandrum Engineering college 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.

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 latest technological advances in the industry.

FAR also has a training department which conducts a one year training program for young technically qualified individuals. This is FAR's on going program of giving back to the society, to help build a future for these individuals.







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, jigboring, planning machine, cylindrical grinding machine, surface grinders etc.

Quality is checked at very 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.



▲ Our Research & Development Department.

◀ Our Quality Inspection Department

ISO 9001

**BUREAU VERITAS
Certification**



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.

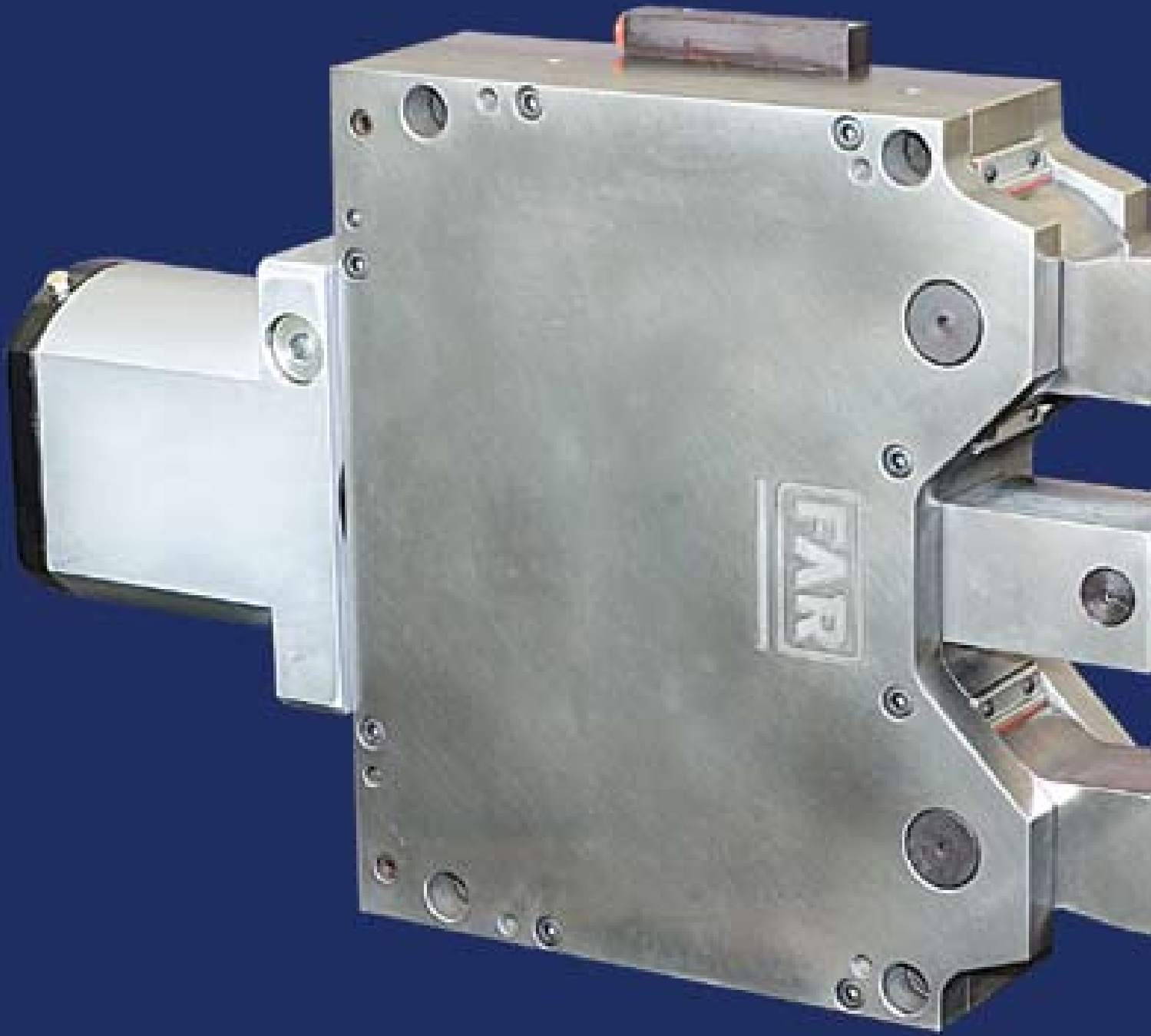
FAR is an ISO certified company, quality is our commitment to our clients. We are equipped with the latest inspection machines and processes.

Following is our quality policy:

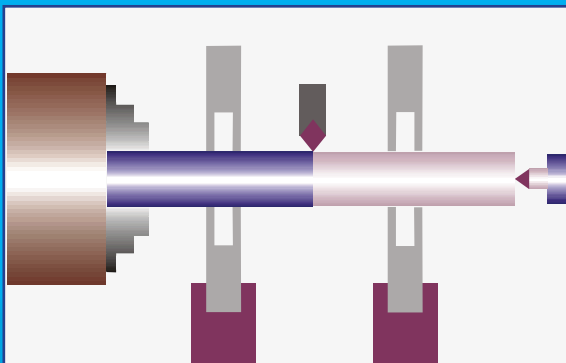
We are committed to provide state-of-the-art machine tools and accessories and are determined to meet the customer expectations in respect of quality, cost and delivery.



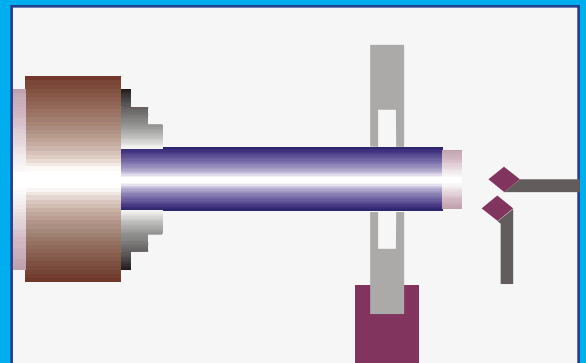
Steady Rests - Turning Steadys



Tandem Steady Rest Fixed



Steady Rest Fixed for end machining





Steady Rests

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.

By mounting accordingly these steady rests can be used for turning outside diameters, inside diameters, facing, drilling, grinding, induction hardening etc.

Steady rests can be operated either hydraulically or pneumatically with the only difference being the clamping cylinder bore.

In FRU series the clamping cylinder is fixed as axial extension at the rear end. With FRU -B series the cylinder is fixed to the side of the steady rests to save mounting space.

FAR produce two kinds of steady rests:

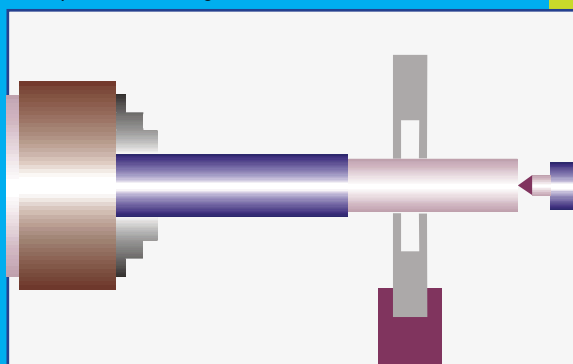
- Steady Rests for Turning
- Steady Rests for Grinding

Listed below models of steady rests:

- FRU** Standard steady rest with rear mounted cylinder and diameter range from 4mm to 630mm
- FRUA** Steady rest with rear mounted cylinder and extra opening for top arm. Diameter range from 8 mm to 630mm
- FRUB** Steady rest with side mounted cylinder and diameter range from 12 mm to 630mm
- FRUAB** Steady rest with side mounted cylinder and extra opening for top arm diameter range from 20 mm to 630mm
- KRHS** Steady rest with rear mounted cylinder for crank shaft machining
- KRSHS** Steady rest with side mounted cylinder for crank shaft machining
- VLHS** Steady rest with vertical arm opening for crank shaft milling
- GHS** steady rest for grinding
- KRGHS** Steady rest for crank shaft grinding
- VGHS** Steady rest for grinding with vertical arm opening

Steady Application

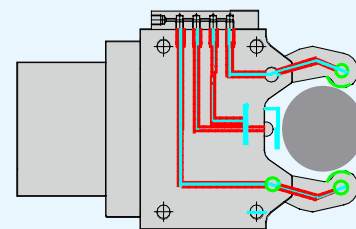
Steady Rest Travelling



Steady Rests

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.

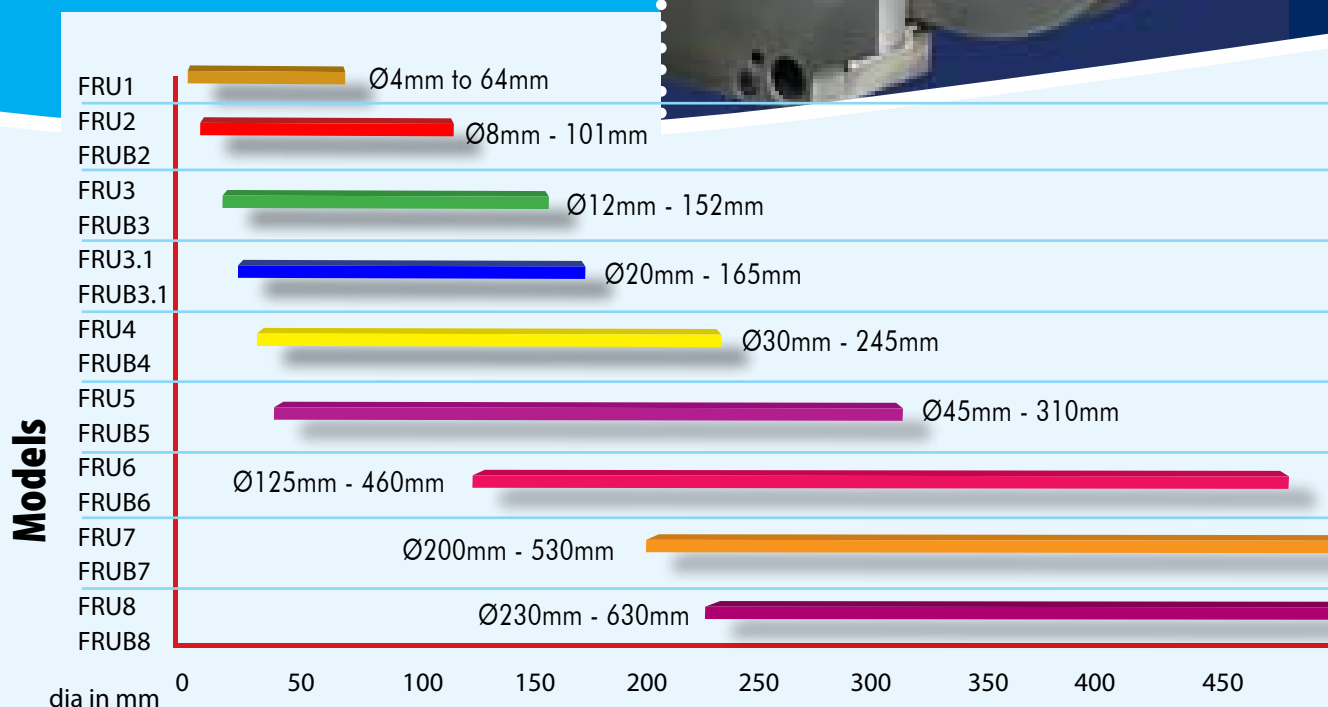


Central Lubrication

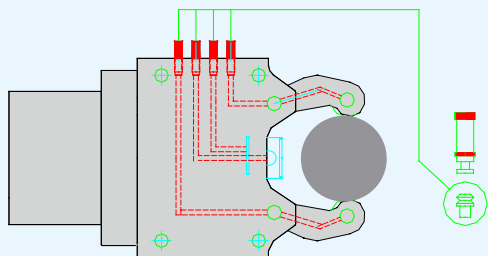
This lubrication system is used in heavy working conditions and high build of swarf as well as traveling steady rest applications. The steady rest is provided with a lubricating connection to supply the oil to the lubricating points and rollers through metering cartridges. The pressure required for the lubricating pump is 5-12 bar.



Chip Guard



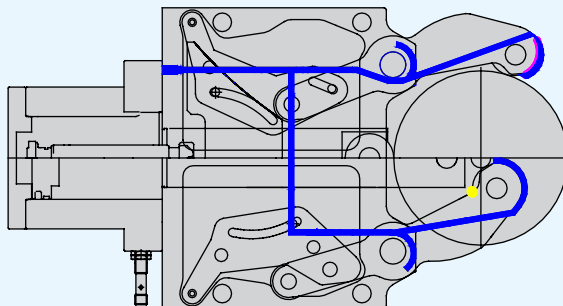
Optional equipment



Manual Lubrication

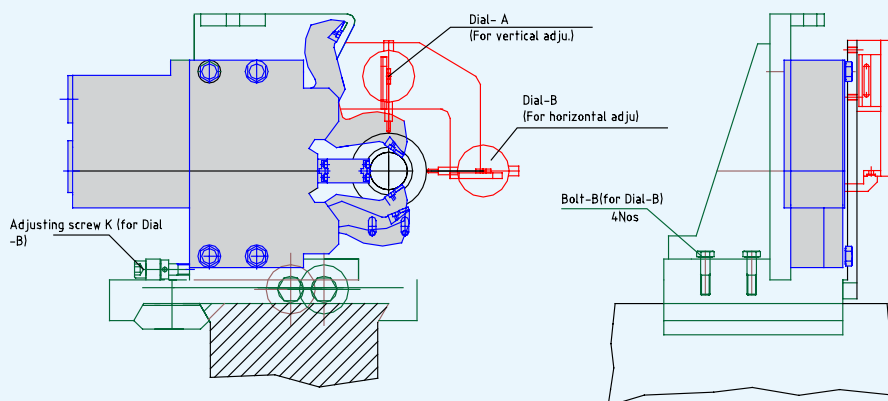
This lubrication system is used for light duty working conditions and low building of swarf. The lubrication points and rollers are supplied with grease through grease nipple and grease gun. Steady Lubrication schedule depends on the working conditions normally every 4-8 operating hours.

Grease: 'DIN 51402'



Optional Coolant/ Air Chipguard

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

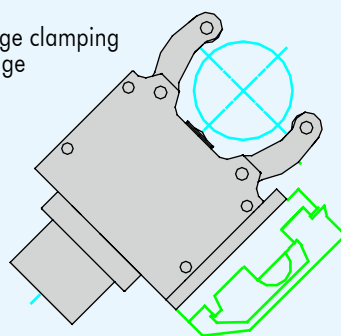


Optional Steady rest bracket with adjustment device

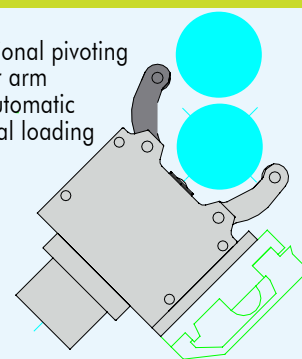
A suitable steady rest bracket is what helps the steady rest achieve its required precision. Sufficient rigidity and a flat square 90° angle contact to the machine centre line are the most important factors.

Salient features

Large clamping range

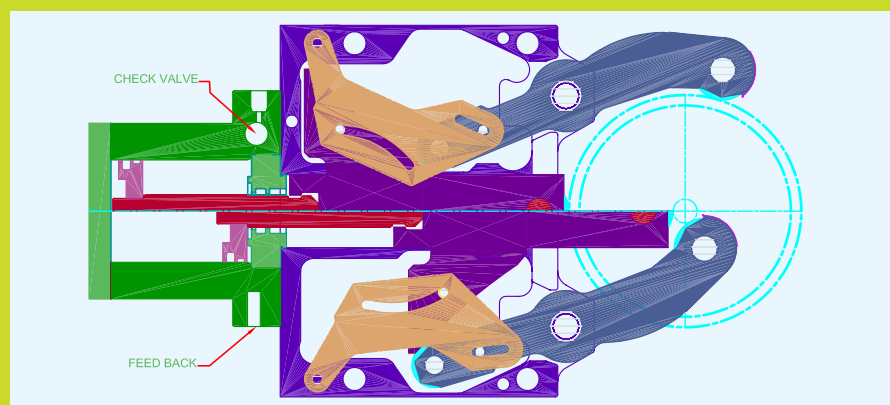


Additional pivoting upper arm for automatic vertical loading

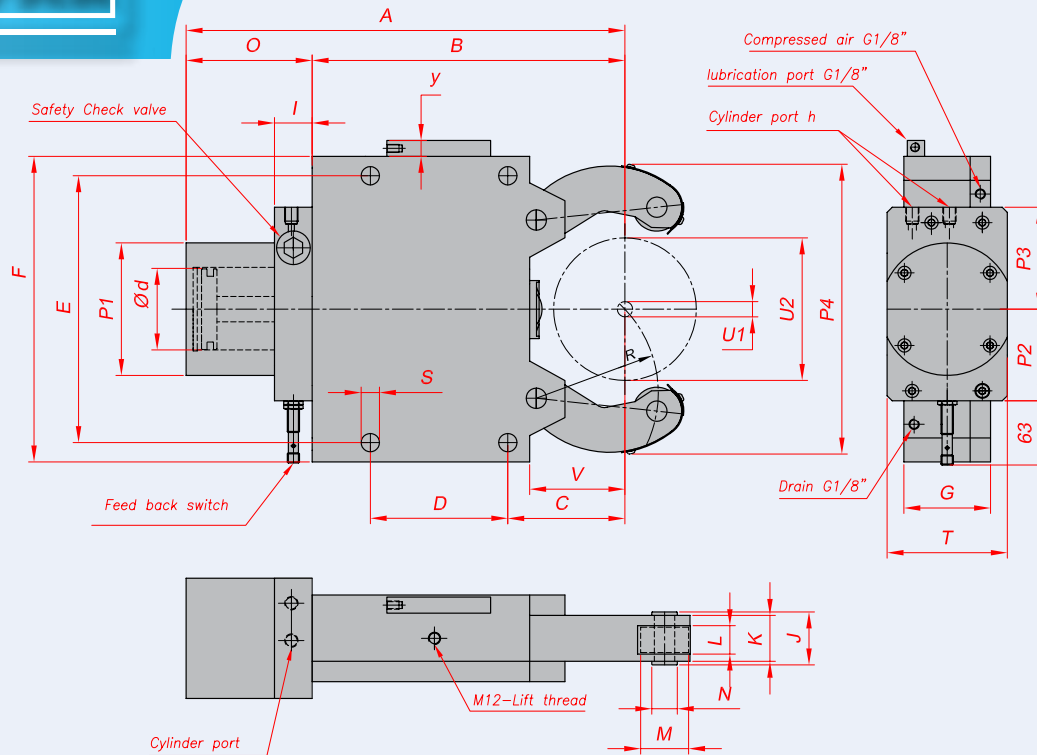


Quick Range Selector

(size beyond 630mm are also manufactured)




500 550 600 650



FRU Series

This series is for all standard applications. Available in a range of dias from 4 mm to 900 mm. These steadies work on both flat bed as well as slant bed CNC lathes. We supply brackets for mounting according to the customers requirements

STEADY REST TYPE

STEADY REST TYPE			FRU1	FRU2	FRU3			FRU4	FRU5	FRU5.1	FRU6	FRU7	FRU8
	A	A	299	457	465	486	624	706	746.5	980	1236	1430	
	B	137.5	195	308	316	332	437	500	530	709	898	1020	
	C	51	70	115	123	138	146	178	198	215	320	375	
	D	64	85	135	135	135	240	270	270	330	440	500	
	E	118	170	262	262	262	365	400	400	610/640	650	855	
	F	155	205	290	290	290	400	450	450	680	720	930	
	G	55	70	85	85	85	110	145	145	145	162	190	
	I	33	33	37	37	37	37	37	37	37	60	60	
	J	24	42	52	52	52	67	83	83	83	96	110	
	K	20	35	45	45	45	60	75	75	75	82	100	
	L	12	19	25	25	25	25	29	29	29	32	32	
	M	19	35	47	47	47	52	62	62	80	100	100	
	N	10	21	25	25	25	32	40	36	43	55	55	
	O	84.5	104	149	149	154	187	206	216.5	271	338	410	
	P1	84	102	137	137	137	165	165	165	190	238	238	
	P2	66	66	92	90	90	102	102	102	115	143	143	
	P3	66	75	92	94	94	110	110	110	135	158	158	
	P4	130	188	280	280	313	415	475	512	727	870	990	
	R	50.5	75	119	124	141	172	209	229	290	390	402	
	S	11	14	18	18	18	23	23	23	27	27	35	
T	70	70	102	102	102	126	144	144	158	190	230		
V	42.5	60	92	99	115	128	160	180	175	292	290		
Y	19	19	19	19	19	19	19	19	19	19	19		
Centering range without chip guard.	U1	4	8	12	20	50	30	45	85	125	200	230	
	U2	64	101	152	165	200	245	310	350	460	530	630	
Centering range with 3 piece chip guard.	U1	11	16	16	20	50	30	45	85	125	200	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	¼" BSP	¼" BSP	¼" BSP	¼" BSP	¼" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP	
Operating pressure. Min/Max	bar	6--50	8--60	8--60	8--60	8--60	8--60	8--70	8--70	8--70	8--70	8--70	
Max. clamp force/roller	daN	100	390	1000	1000	1000	1500	1800	1800	3000	4000	4000	
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	800	800	725	725	725	715	700	700	700	250	250	
Weight Approx.	kg	7	18.5	48	48	50	104	155	155	430	1000	1300	

Standard Features:

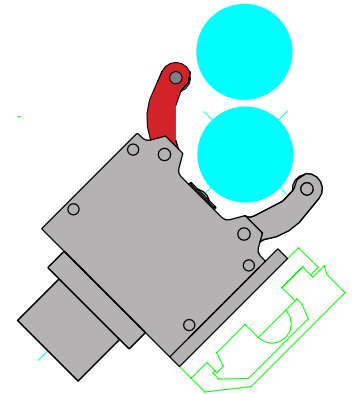
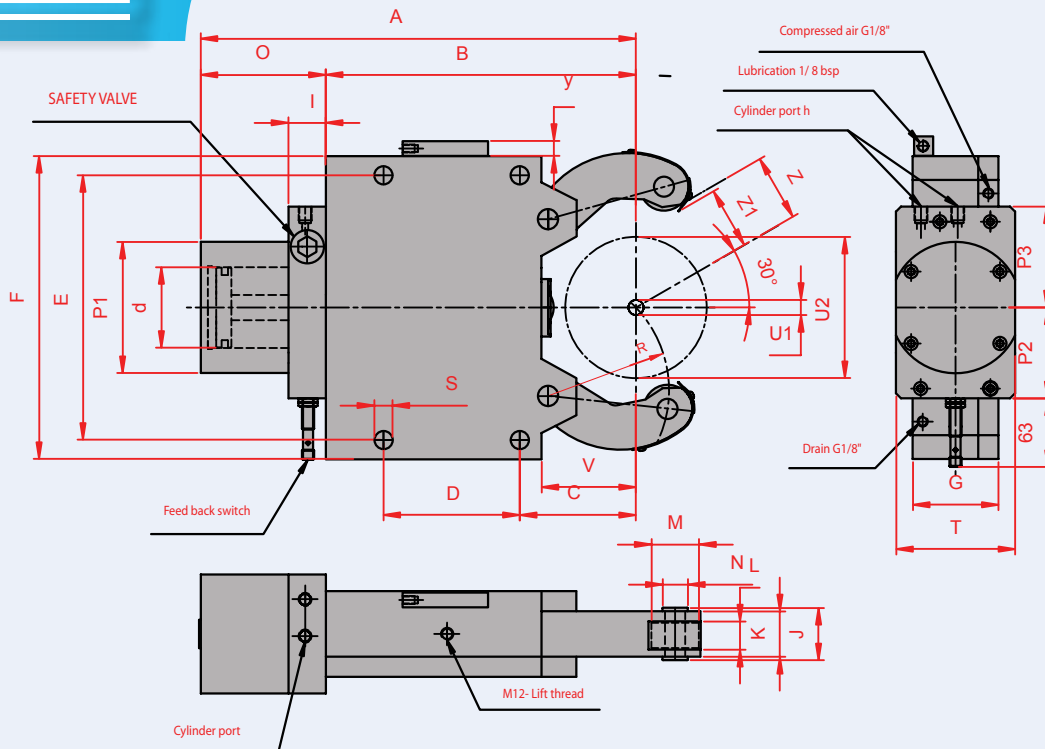
- Safety Valve
- Stroke Control
- 1 set swarf guard 3-piece
- Connection for compressed air

Steady rest with Rear mounted actuating cylinder and top arm extra opening.

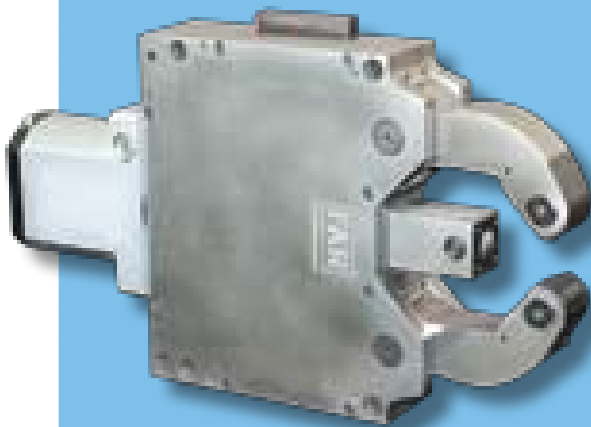
Steady Rest Model: FRUA

FRUA Series

This series of steadys are made for applications where vertical loading is required e.g. using a gantry loader. FAR has a standard range of these steadys.



STEADY REST TYPE

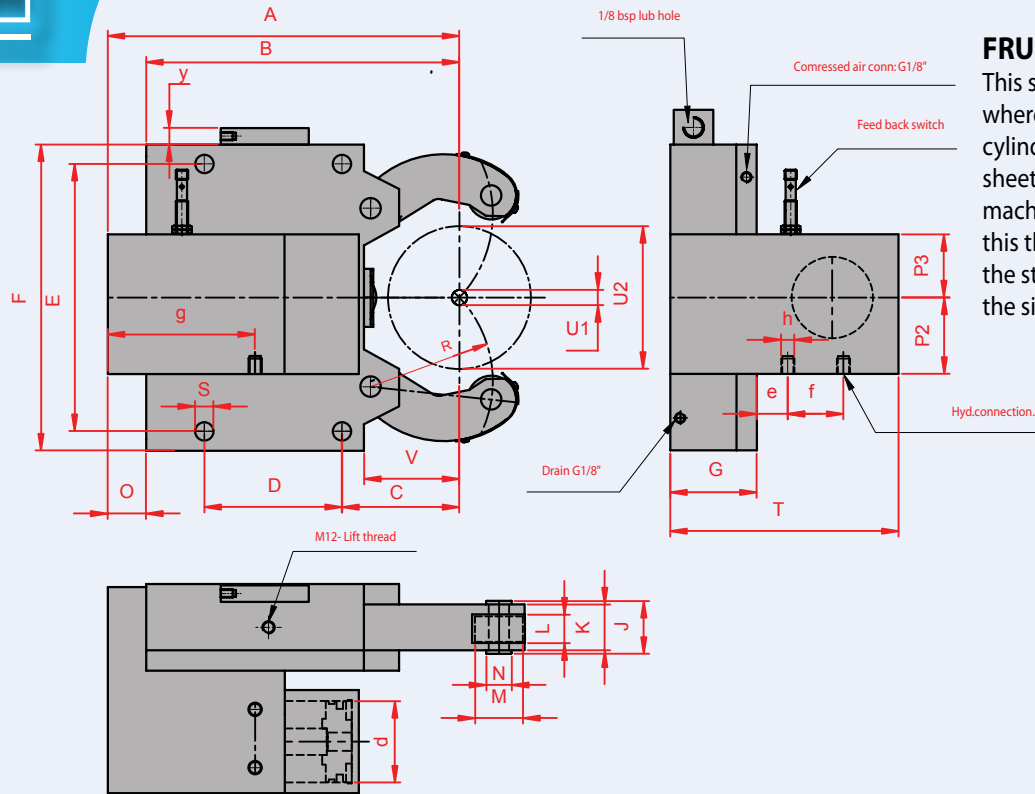


Standard Features:

- Safety Valve
- Stroke Control
- 1 set swarf guard 3-piece
- Connection for compressed air

	FRUA 1	FRUA 2	FRUA 3	FRUA 3.1	FRUA 4	FRUA 5	FRUA 6
A	222	299	457	465	624	706	980
B	137.5	195	308	316	437	500	709
C	51	70	115	123	146	178	215
D	64	85	135	135	240	270	330
E	118	170	262	262	365	400	610/640
F	155	205	290	290	400	450	705
G	55	70	85	85	110	145	145
I	33	33	37	37	37	37	37
J	24	42	52	52	67	83	83
K	20	35	45	45	60	75	75
L	12	19	25	25	25	29	29
M	19	35	47	47	52	62	80
N	10	21	25	25	32	40	42
O	84.5	104	149	149	187	206	271
P1	84	102	137	137	165	165	200
P2	66	66	92	90	102	102	120
P3	66	75	92	94	110	110	135
R	50.5	75	119	124	172	209	290
S	11	14	18	18	23	23	27
T	70	70	102	102	126	144	158
V	42.5	60	92	99	128	160	175
Y	19	19	19	19	19	19	19
U1	4	8	12	20	30	50	160
U2	52	80	130	150	220	268	460
U1	11	16	20	20	30	50	160
U2	52	80	130	150	220	268	460
Z	26.5	41	56	76	111	135	230**
Z1	24	34	53	73	106	130	225**
d	30	50	80	80	100	100	130
h	1/4" BSP	1/4" BSP	1/4" BSP	1/4" BSP	3/8" BSP	3/8" BSP	3/8" BSP
bar	6--50	8--60	8--60	8--60	8--70	8--70	8--70
daN	100	350	1000	1000	1800	1800	3000
mm	0.02	0.02	0.04	0.04	0.05	0.06	0.06
mm	0.005	0.005	0.007	0.007	0.007	0.01	0.01
m/min	800	800	725	725	715	700	700
kg	7	18.5	48	48	104	160	430

** Angle of inclination is 19 degree instead of 30 degree


FRUB Series

This series is made for machines where the rear mounted cylinder may foul with the sheet metal enclosures or other machine enclosures. To achieve this the actuating cylinder of the steady rest is mounted on the side of the steady rest.

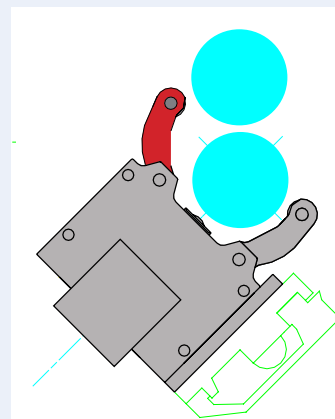
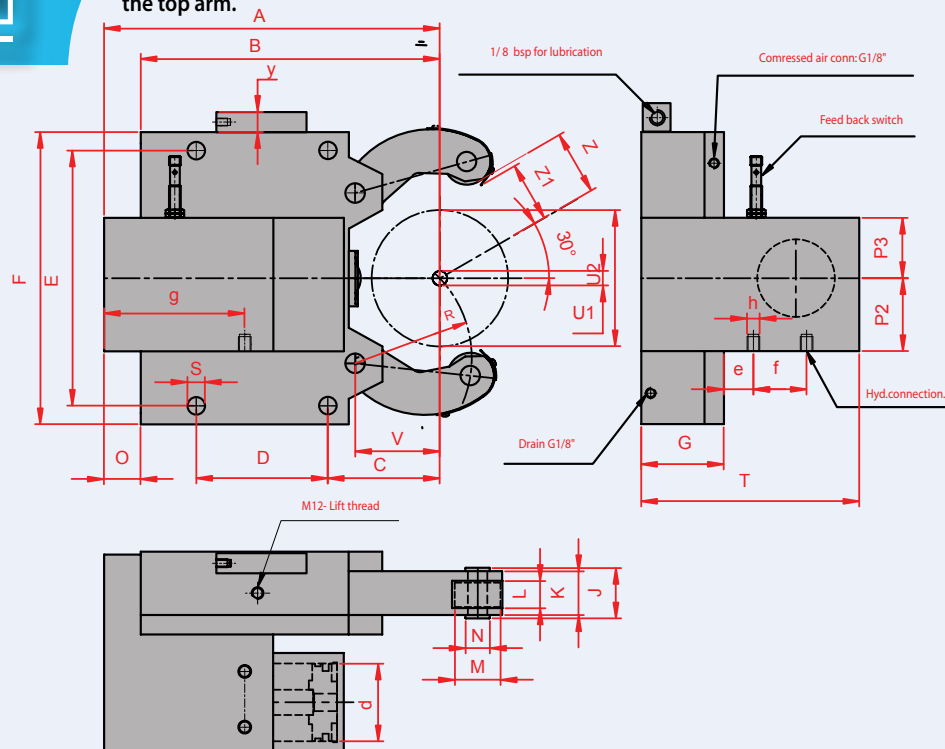
STEADY REST TYPE

Standard Features:

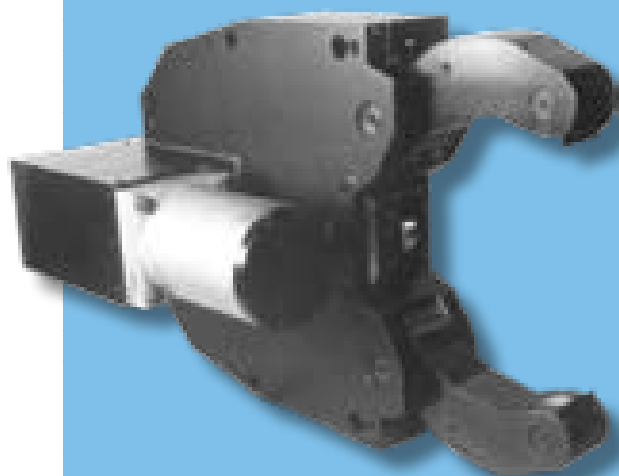
- Safety Valve
- Stroke Control
- 1 set swarf guard 3-piece
- Connection for compressed air

		FRU-B 3	FRU-B 3.1	FRU-B 4	FRU-B 5	FRU-B 6	FRU-B 7	FRU-B 8
A		348	356	480	612.5	825	1001	1130
B		308	316	437	500	709	897.5	1020
C		115	123	146	178	215	320	375
D		135	135	240	270	330	440	500
E		262	262	365	400	610/640	650	855
F		290	290	400	450	680	710	930
G		85	85	110	145	145	180	190
J		52	52	67	83	83	112	110
K		45	45	60	75	75	100	100
L		25	25	25	29	29	32	32
M		47	47	52	62	80	100	100
N		25	25	32	36	42	55	60
O		40	40	43	112.5	116	103.5	110
P2		76	75	85	85	134	130	130
P3		59	58	68	85	90	130	130
R		117	124	172	209	290	398	402
S		18	18	23	23	27	27	35
T		199	198	244	325	350	405	487
V		92	99	128	160	175	283	290
Y		19	19	19	19	19	19	27
U1		12	20	30	45	125	200	230
U2		152	165	245	310	460	530	630
Centering range without chip guard.								
Centering range with 3 piece chip guard.								
U1		16	20	30	45	125	200	230
U2		152	165	245	310	460	530	630
Cylinder Bore.	d	80	80	100	100	130	150	150
	e	58	58	68	114	129	191	191
	f	27	27	39	39	48.5	50	50
	g	181	180	221	274	373	450	450
Hyd. Connection. (BSP)	h	¼" BSP	¼" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP
Operating pressure. Min/Max	bar	8--60	8--60	8--70	8--70	8--70	8--70	8--70
Max. clamp force/roller.	daN	1000	1000	1500	2000	3000	4000	4000
Centering accuracy over the whole clamping range	mm	0.04	0.04	0.05	0.06	0.06	0.08	0.08
Repeatability	mm	0.007	0.007	0.007	0.01	0.01	0.02	0.02
Max. peripheral speed.	m/min	725	725	715	700	700	250	250
Weight Approx.	kg	53	53	115	190	500	1000	1300

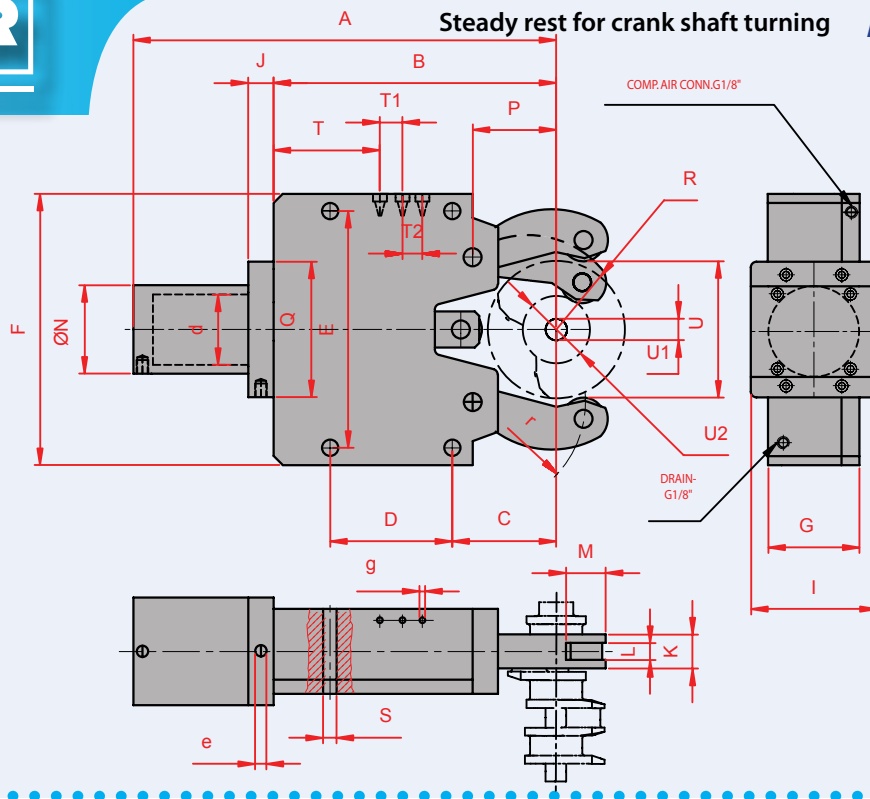
Steady rest with side mounted actuating cylinder and extra opening for the top arm.



STEADY REST TYPE



	FRUA-B 3	FRUA-B 3.1	FRUA-B 4	FRUA-B5	FRUA-B 6
A	348	356	480	612.5	825
B	308	316	437	500	
C	115	123	146	178	215
D	135	135	240	270	330
E	262	262	365	400	610/640
F	290	290	400	450	680
G	85	85	110	145	145
J	52	52	67	83	83
K	45	45	60	75	75
L	25	25	25	29	29
M	47	47	52	62	80
N	25	25	32	36	42
O	40	40	43	112.5	116
P2	76	75	85	85	134
P3	59	58	68	85	90
R	117	124	172	209	290
S	18	18	23	23	27
T	199	198	244	325	350
V	92	99	128	160	175
Y	19	19	19	19	19
U1	12	20	30	50	160
U2	130	150	220	268	460**
U1	20	20	30	50	160
U2	130	150	220	268	460**
Z	66	76	111	135	230**
Z1	62	72	106.5	130	225**
d	80	80	100	100	130
e	58	58	68	114	129
f	27	27	39	39	48.5
g	180	180	220	270	430
h	1/4" BSP	1/4" BSP	3/8" BSP	3/8" BSP	3/8" BSP
Operating Press. Min/max	bar	8--60	8--60	8--60	8--60
Max. clamp pressure/roller.	daN	1000	1000	1500	2000
Centering accuracy over the whole clamping range.	mm	0.04	0.04	0.05	0.06
Repeatability.	mm	0.007	0.007	0.007	0.01
Max. Peripheral speed	m/min	725	725	715	700
Approx. weight	kg	55	55	115	190



KRHS Series

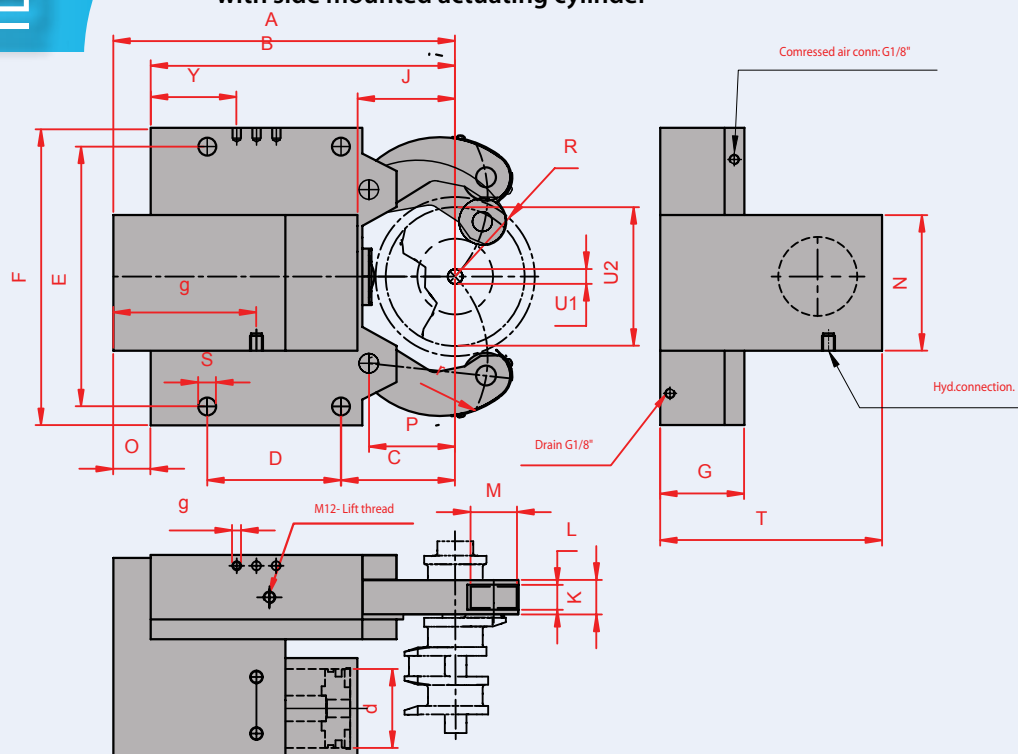
Steady rest for crank shaft machining is a very important variant of steady rests. FAR has developed and supplied the entire range of steady rests required for crank shaft machining applications such as motor car to heavy railway and marine crank shafts.

STEADY REST TYPE.



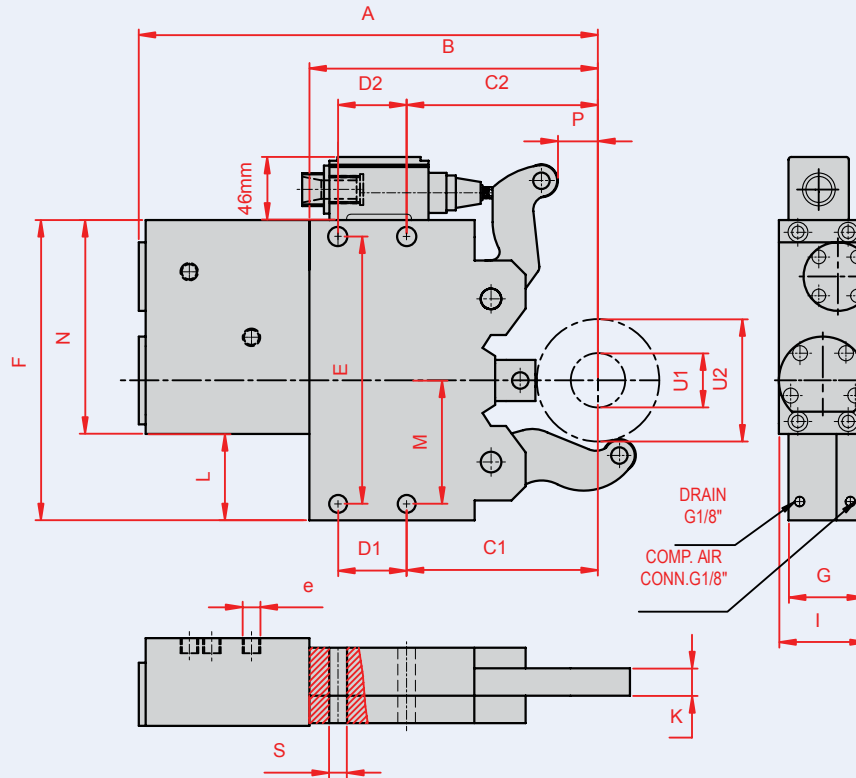
STEADY REST TYPE.		KRHS315P	KRHS 520D	KRHS528C	KRHS 930	KRHS 839	KRHS 1540
A		503	621	735	737	804	1505
B		331	442	515	515	595	1176.5
C		138	180	178	178	255	462.5
D		135	210	270	270	270	356
E		262	330	400	400	400	760
F		300	370	450	450	440	840
G		80	67	102	145	110	150
I		100	100	102	144	108	131
J		31	40	37	40	22	40
K		22	26	32	40	40	75
L		14	16	20	20	20	32
M		35	40	62	62	62	110
N(dia)		132	132	147	147	137	137
P		108	160	160	160	214	425.5
Q		161	196	186	178	184	182
r		139	187.5	209	209	252	497.5
S		18	20	23	23	23	27
T		113	181	223	182.5	194.5	536
T1		25	27	32	32	23	26
T2		25	27	32	32	23	26
U1		40	45	70	90	80	150
U2		85	100	150	300	200	400
Clamping Ranges without chip guard							
Max. axial Opening	U	220	236	322	303	393	795
	U1	40	45	70	90	80	150
Clamping range with Chip guard	U2	85	100	150	300	200	400
	U	220	236	322	303	200	795
Eccentric throw (Diameter in mm)	R	220	240	310	300	395	800
Cylinder bore.	d	80	80	80	100	80	100
Hyd. Connection. (BSP)	e	1/4 "BSP	3/8 "BSP	1/4 "BSP	3/8 "BSP	1/4"BSP	3/8"BSP
Lubrication ports	g	M8X1	M8X1	M 10X1	M 10X1	M 10X1	1/4" BSP
Standard Operating Pressure	bar	6--30	2--40	1--55	5--55	6--55	8--100
Max. Operating pressure	bar	30	45	60	60	60	115
Max. clamping pressure/roller.	daN	100	140	140	140	140	203/8BAR
Centering accuracy over the whole clamping range.	daN	500	1000	1400	1400	1400	3000
Repeatability	mm	0.04	0.05	0.05	0.05	0.05	0.03
Max .Peripheral speed.	mm	0.01	0.01	0.01	0.01	0.01	0.01
Max. Peripheral speed at half max. clamping press.	m/mi	700	715	700	700	700	550
Weight Approx.	kg.	50	70	150	185	190	750

Specially designed for crank shaft machining
with side mounted actuating cylinder



STEADY REST TYPE.

		KRSHS 315D	KRSHS 315H	KRSHS 510	KRSHS521
	A	355	363	334	340
	B	331	361	296	340
	C	138	170	103	133
	D	135	135	135	135
	E	266	266	266	288
	F	300	300	300	315
	G	80	85	82	89
	J	111	135	83	110
	K	22	29	22	28
	L	14	18	14	18
	M	35	47	35	47
	N	130	129	130	139
	O	24	2	38	0
	P	108	140	73	110
	r	140	174	115	144
	S	M20x2.5 P	25	M20x2.5 P	18
	T	220	211	206	224
	Y	113	113	113	133
Clamping Ranges without chip guard	U1	40	70	45	50
	U2	70	150	110	100
Max. axial Opening	U	216	170	160	211
Clamping range with Chip guard	U1	40	70	45	50
	U2	70	150	110	100
	U	216	170	160	211
Eccentric throw (Diameter in mm)	R	216	170	160	218
Cylinder bore.	d	50	80	50	80
Hyd. Connection. (BSP)	e	¼ "BSP	¼ "BSP	¼ "BSP	¼ "BSP
Lubrication ports	g	M8X1	M 8X1	M 8X1	M8X1
Standard Operating Pressure	bar	1--35	6--40	1--30	6--40
Max. Operating pressure	bar	40	45	35	45
Clamping press./roller at 6 bar	daN	100	80	36	80
Max. clamping pressure/roller.	daN	500	520	240	520
Centering accuracy over the whole clamping range.	mm	0.04	0.04	0.04	0.04
Repeatability	mm	0.01	0.01	0.01	0.01
Max. Peripheral speed.	m/mi	700	700	800	715
Max. Peripheral speed at half max. clamping press.	m/mi	850	825	950	825
Weight Approx.	kg.	50	50	40	55

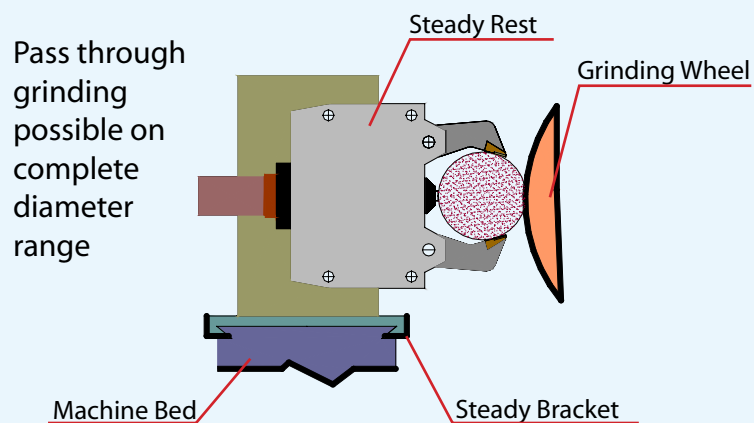
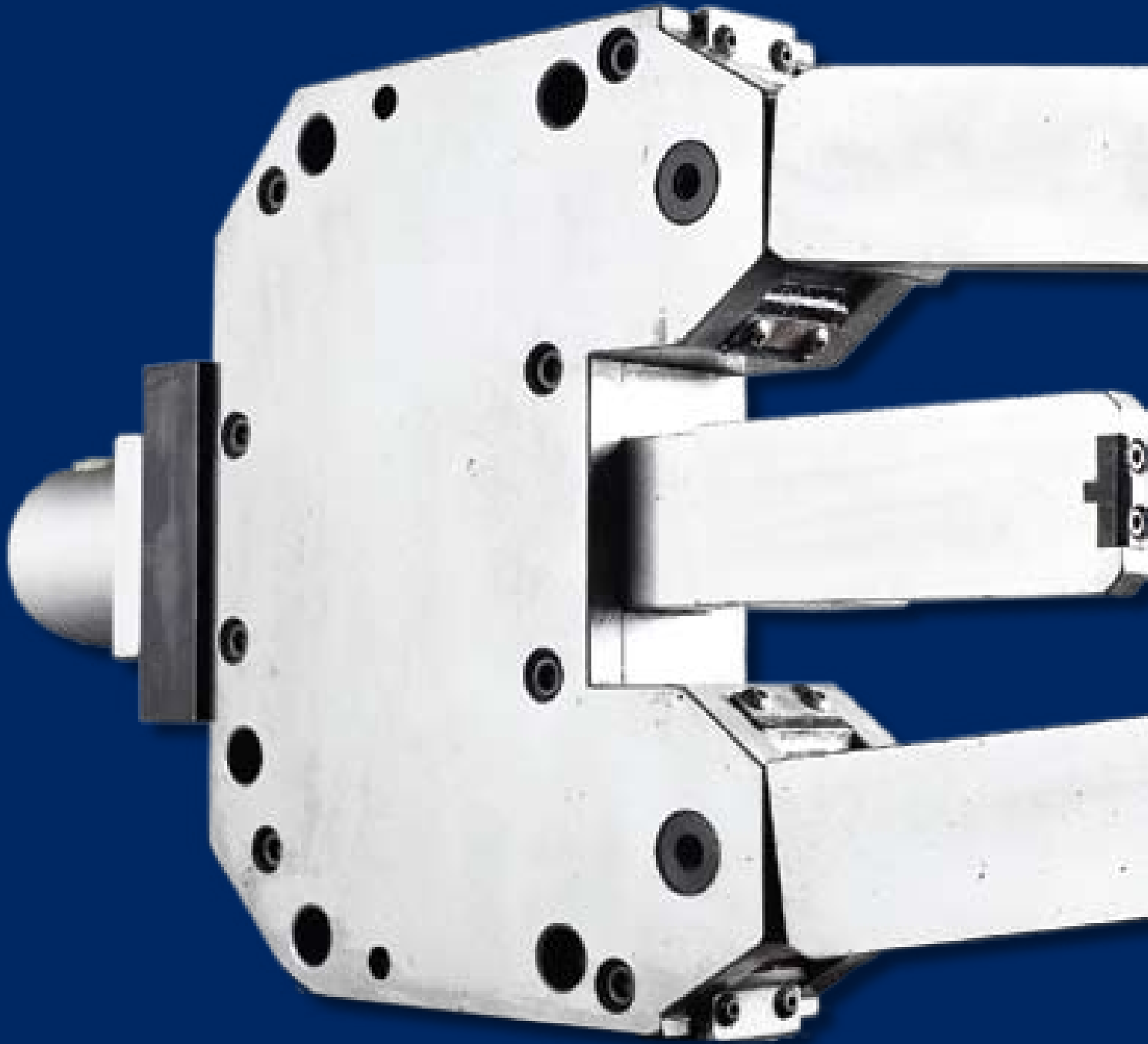


STEADY REST TYPE.



		VLHS 480	VLHS 480A	VLHS7513
Centering Ranges	A	335	335	420
	B	207	207	291
	C1	139.5	139.5	155
	C2	139.5	139.5	200
	D1	50	50	105
	D2	50	50	60
	E	195	195	305
	F	219	219	340
	G	65	65	90
	I	74	74	90
	K	30	30	45
	L	102	102	152.5
	M	90	90	135
	N	140	140	209
	P	29	22	70
	S	Ø13	Ø13	18
	U1	40	15	75
	U2	80	67	130
Cylinder bore.	d	50	50	50
Hyd. Connection. (BSP)	e	¼" BSP	¼" BSP	¼" BSP
Standard Operating Pressure	bar	8--20	8--20	8--30
Max. Operating pressure	bar	25	25	35
Clamp. Press./Roller at 6 bar	daN	40	40	115
Max. clamp pressure/Roller	daN	150	150	200
Centering accuracy over the whole clamping range.	mm	0.02	0.02	0.02
Repeatability	mm	0.005	0.005	0.005
Weight Approx.	kg	17	17	42

Steady Rests - Grinding Steadys





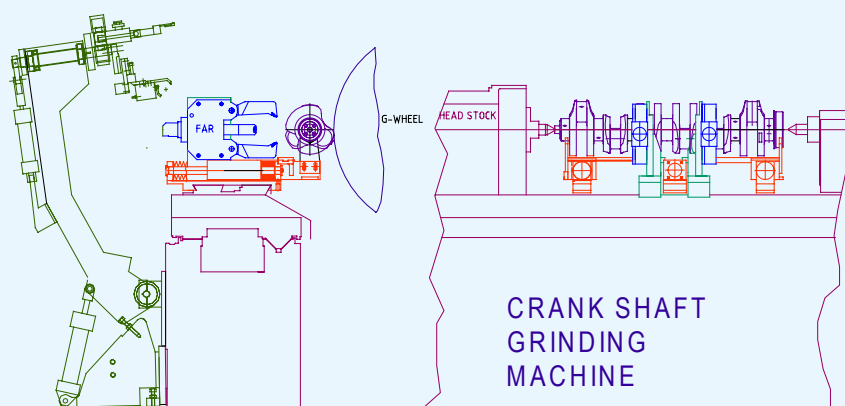
Steady Rests for Cylindrical grinding

FAR has developed an entire range of pad type self catering 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

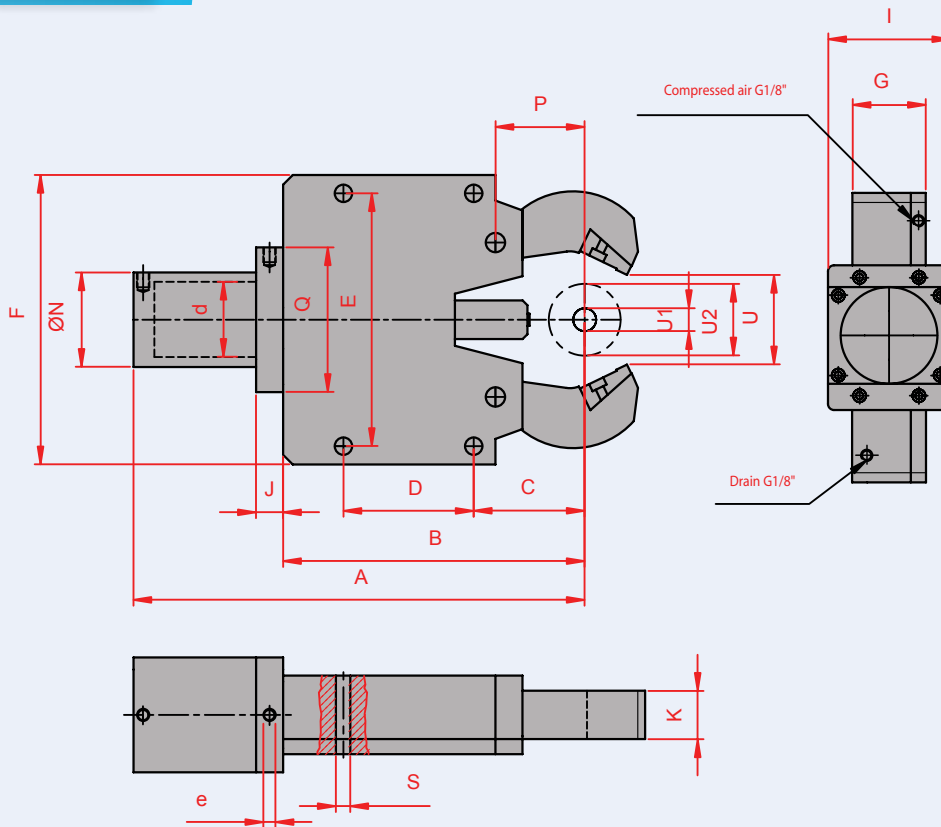
- 3 point steady rest with carbide pad support
- Greater accuracy for todays tolerance limit
- Models for crank shaft, and cam shaft
- Less down time for steady rest adjustment
- The follow - down operation allows all supporting pads to moves toward center as the part size diminishes. This feature provide 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

Steady Sliding Arrangement

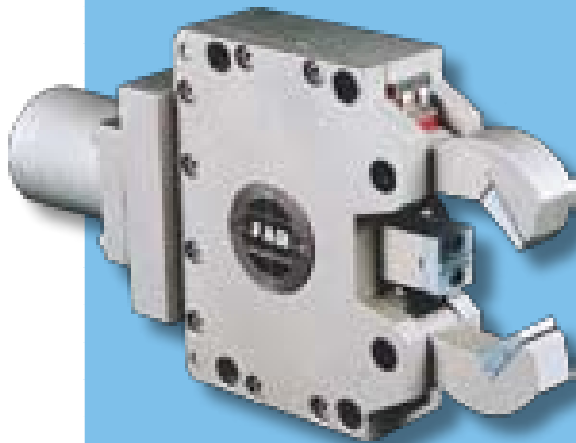


GHS Series

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.

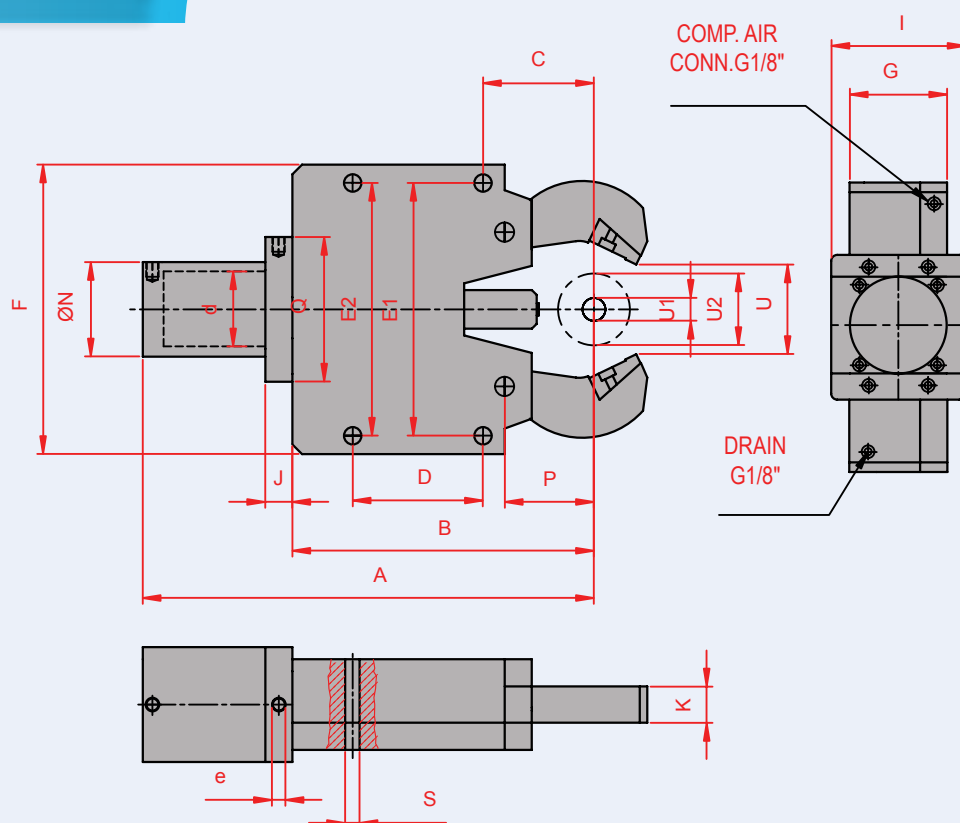


Steady Rest Type



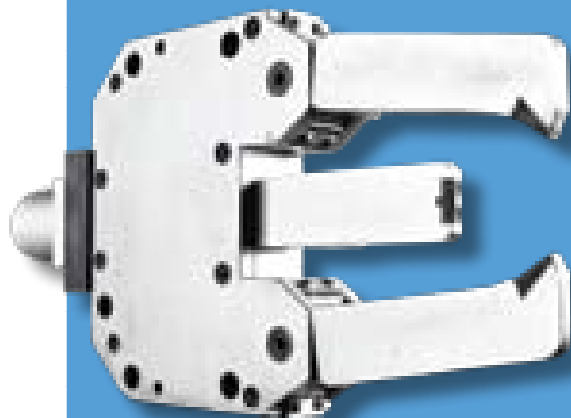
		GHS 260E	GHS 1012A	GHS 395
A		246	463	310
B		147	312	210
C		56	115	85
D		65	135	85
E		128	262	170
F		146	300	205
G		44	85	70
I		44	85	68
J		23	25	33
K		20	45	35
N		44	65	102
P		38	87	69
Q		96	110	141
S		M12x1.75P	18	14
Clamping Ranges	U1	20	10	35
	U2	60	120	95
Max. axial Opening	U	62	122	97
Cylinder bore.	d	30	50	50
Hyd. Connection. (BSP)	e	¼" BSP	¼" BSP	¼" BSP
Standard Operating Pressure	bar	2--10	2--15	3--20
Max. Operating pressure	bar	15	20	25
Clamp. Press./Pad at 6 bar	daN	14	40	40
Max. clamp pressure/Pad.	daN	35	130	130
Centering accuracy over the whole clamping range.	mm	0.008	0.01	0.01
Repeatability	mm	0.003	0.003	0.003
Weight Approx.	kg	7	42	18


Steady rest for crank shaft grinding application



KRGHS Series

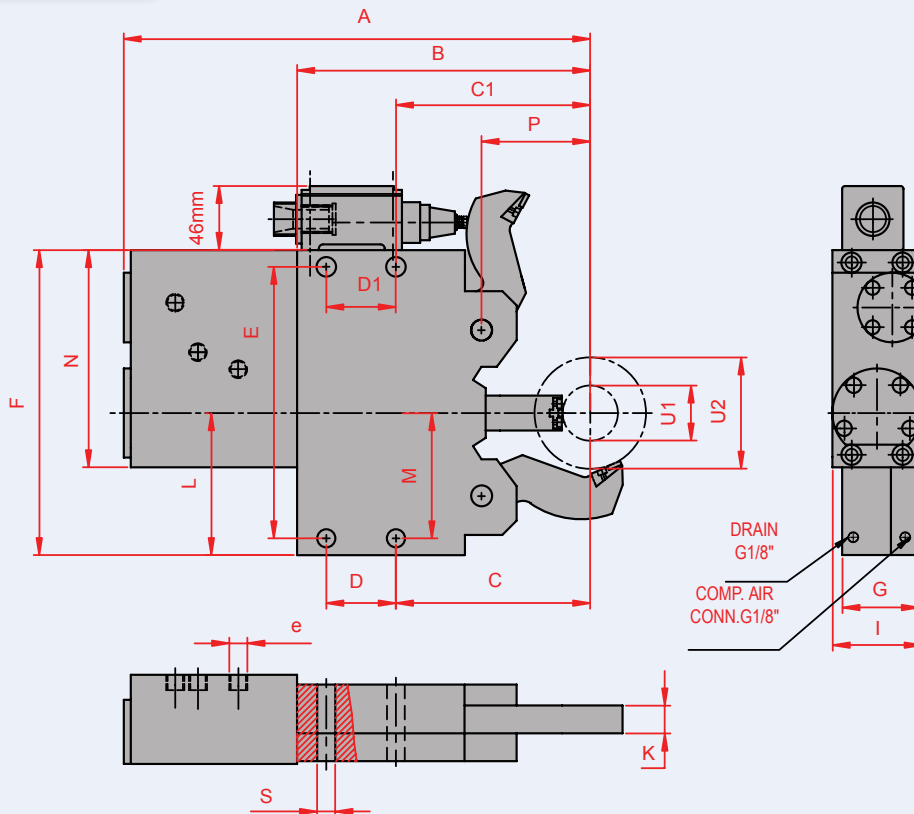
This series is specially designed for crank shaft grinding to accommodate the maximum eccentric throw and journal diameter of crank shafts. Custom made design are available to accommodate in-process gauge and vertical loading.



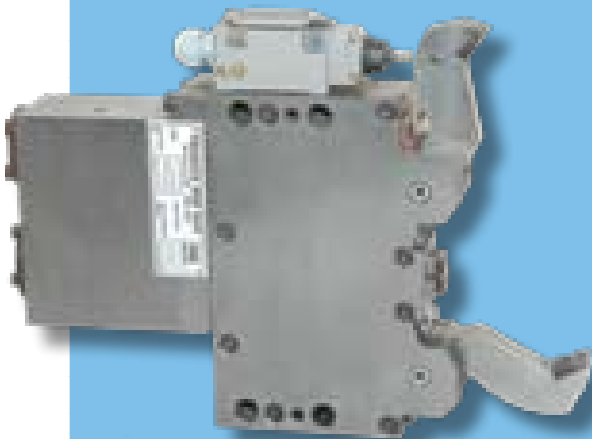
Steady Rest Type		KRGU790	KRGU4510	KRGU9585
	A	420	516.5	565
	B	323	408	444
	C	190	215	254
	D	90	135	142
	E1	202	262	350
	E2	202	262	320
	F	234	290	400
	G	55	62	64
	I	62	68	73
	J	25	33	26
	K	10	10	21
	N	53	119	107
	P	150	192	186
Q	95	148	107	
S	M12X1.75	14	18	
Clamping Ranges	U1	70	45	95
	U2	90	105	185
Max. axial Opening	U	98	125	195
Eccentric throw	R	120	125	285
Cylinder bore.	d	40	50	60
Hyd. Connection. (BSP)	e	¼" BSP	1/4" BSP	¼" BSP
Standard Operating Pressure	bar	2--10	6--20	5--25
Max. Operating pressure	bar	15	35	60
Clamp. Press./Pad at 6 bar	daN	25	39	56
Max. clamp pressure/Pad.	daN	60	190	425
Centering accuracy over the whole clamping range.	mm	0.004	0.01	0.01
Repeatability	mm	0.005	0.005	0.005
Weight Approx.	kg	20	42	60

VGHS Series

These steadies are for cylindrical and camshaft grinding. This series is designed to be used on machines where GHS series steadies cannot be used. It comes with a top arm which is fully openable so as to load components to the machine centre. The opening action can be identified through a sensor integrated to the steady itself.



STEADY REST TYPE.

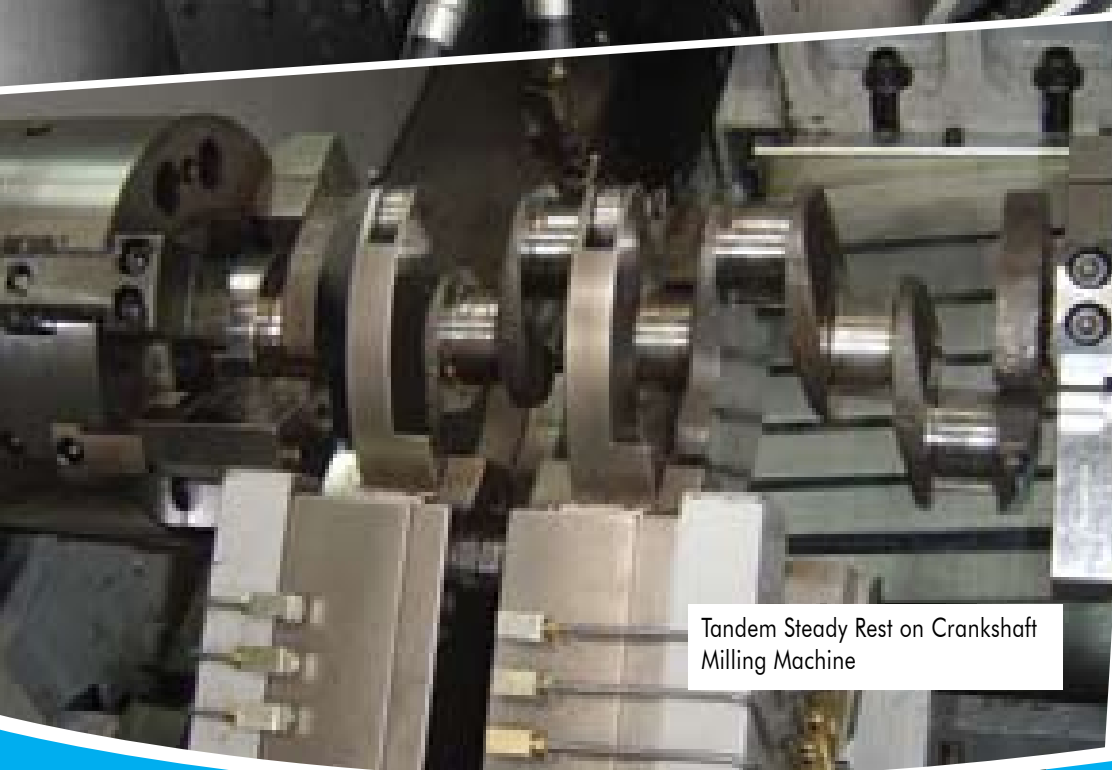


		VGHS 260.	VGHS 480	
A		335	335	420
B		210	210	291
C		139.5	139.5	155
C1		139.5	139.5	200
D		50	50	105
D1		50	50	60
E		195	195	305
F		214	214	340
G		55	55	90
I		60	60	90
K		20	20	45
L		102	102	152.5
M		90	90	135
N		156	156	236.5
P		78	78	117
S		Ø13	Ø13	Ø18
Centering Ranges	U1	20	40	75
	U2	60	80	130
Cylinder bore.	d	40	40	50
Hyd. Connection. (BSP)	e	¼" BSP	¼" BSP	¼" BSP
Standard Operating Pressure	bar	3–15	3–15	3–20
Max. Operating pressure	bar	20	20	25
Clamp. Press./Pad at 6 bar	daN	13	13	40
Max. clamp pressure/Pad.	daN	100	100	130
Centering accuracy over the whole clamping range.	mm	0.005	0.005	0.01
Repeatability	mm	0.002	0.002	0.002
Weight Approx.	kg	17	17	40

Steady Rests - at work



Large Steady Rest on Slant Bed Lathe - China



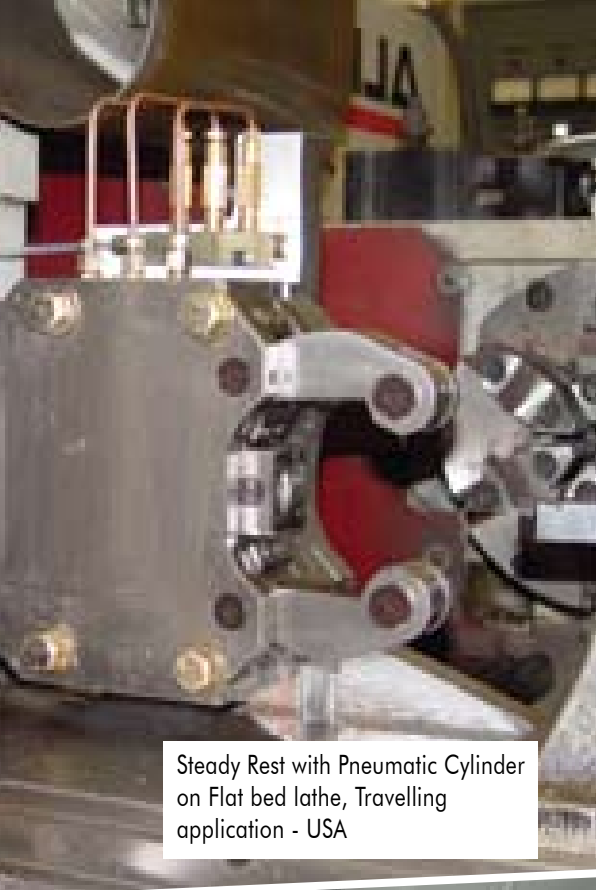
Tandem Steady Rest on Crankshaft Milling Machine



End boring on Slant Bed lathe



Steady rests on Various machines.



Steady Rest with Pneumatic Cylinder
on Flat bed lathe, Travelling
application - USA



Steady Rest - at work

FAR Steady Rest are installed all over the world on different machines.



Deep Hole End Boring Operation - Italy



Hydraulic Cylinder Rod Machining - Canada



Steady Rest on Large CNC Lathe - Taiwan

Barfeeders



FAR



Barfeeders

FAR has been in the fore front of manufacturing barfeeders for many years. Barfeeders 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.

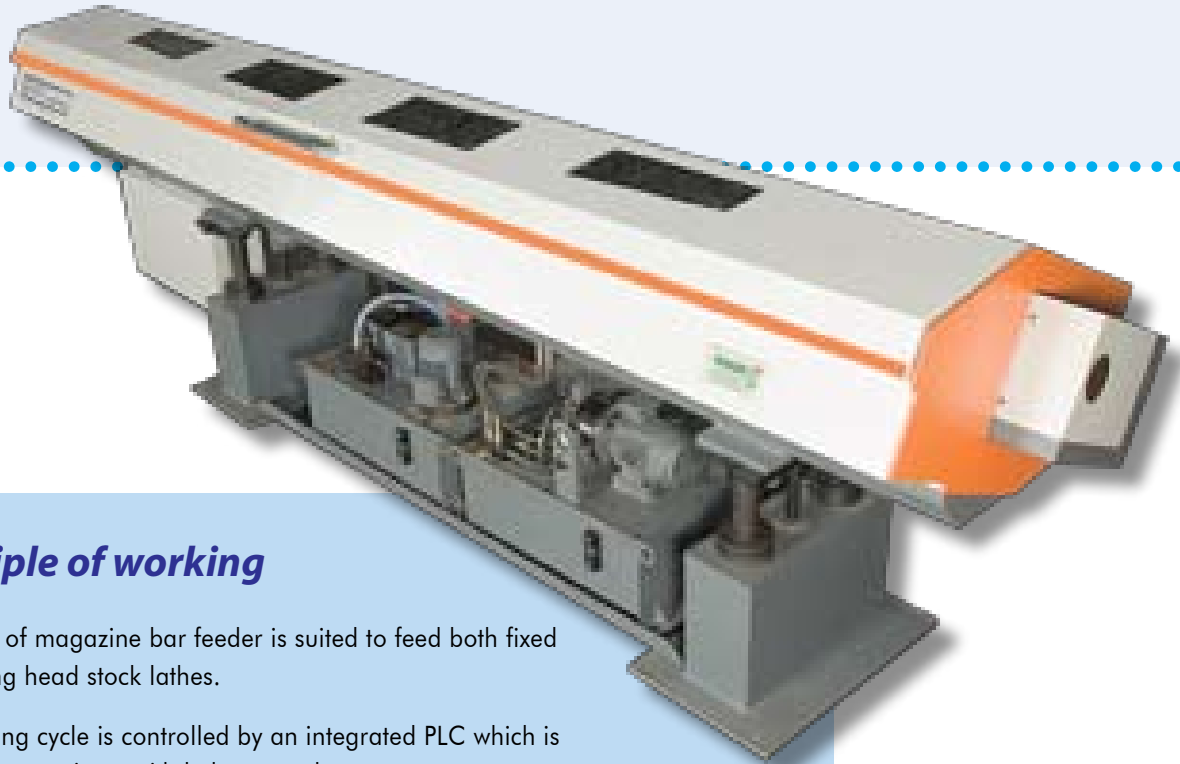
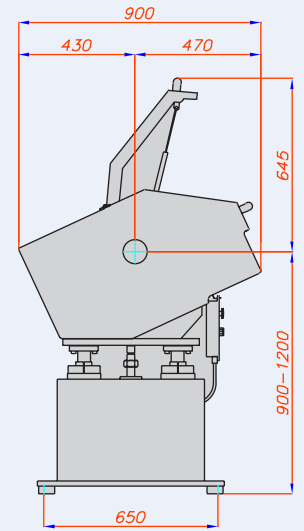
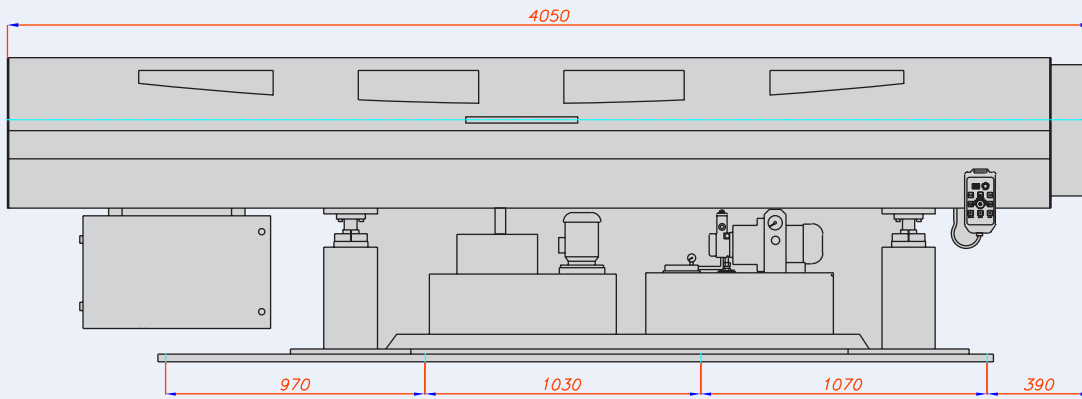
FAR manufacture four different types of barfeeder namely:

- Master Feed
- Quick Feed
- Super Feed
- Auto Feed

The Master Feed is a hydrodynamic magazine type 3 meter barfeeder. The Quick Feed is also a magazine type short barfeeder available in pneumatic, hydraulic and servo versions. The Super Feed is a hydrodynamic multi tube indexing 3 meter barfeeder while the Auto Feed has the same specification but is only a single tube feeder.



Master Feed Series - Hydrodynamic Magazine Type 3 Meter Bar Feeder S



Principle of working

Principle of working

MF series of magazine bar feeder is suited to feed both fixed and sliding head stock lathes.

The working cycle is controlled by an integrated PLC which is able to communicate with lathe control.

The display unit makes programming easier. A pendant is provided to control the main functions without leaving the lathe.

During machining, the guide channel is closed and a pump is provided to maintain a continuous oil flow inside the rubber liner, developing a hydrodynamic effect. This helps the bar inside the rubber liner to rotate at a high rpm without any vibration and surface damage.

The front clamp is attached for an extra support to the bar pusher while machining cycle.

The bar end piece ejection can be done by center clamp or by next bar feeding.

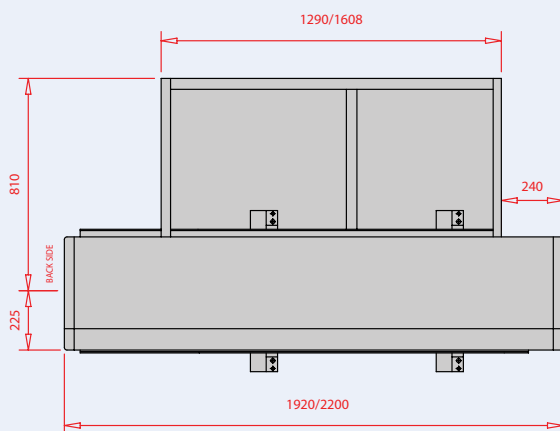
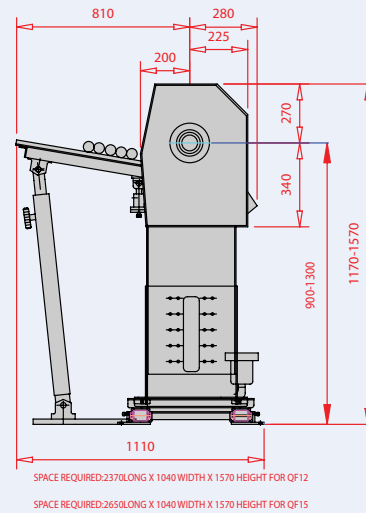
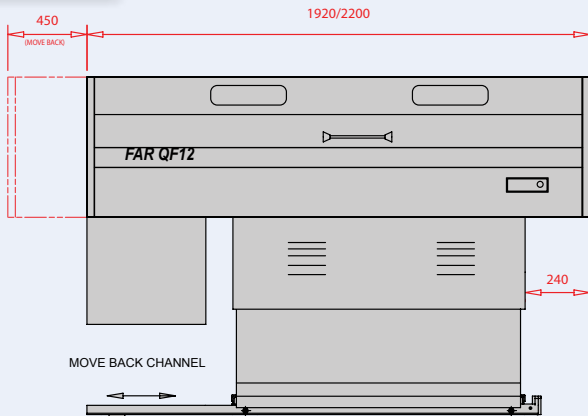
Stroke Control And Safety Valve

Salient features

- Most modern feeding mechanism
- Very compact design
- Models are available to cover bar ranges 2mm to 80mm
- Bar length 3200mm
- Can be interfaced to all CNC machines
- Specially designed for CNC lathes and sliding head (swiss type) auto mats
- Programmable lengths
- Easy to change bar ranges
- Very high speeds of spindle rotation possible
- Hydrodynamic support of bars possible
- Other models available on request
- Models available with both front and rear ejection

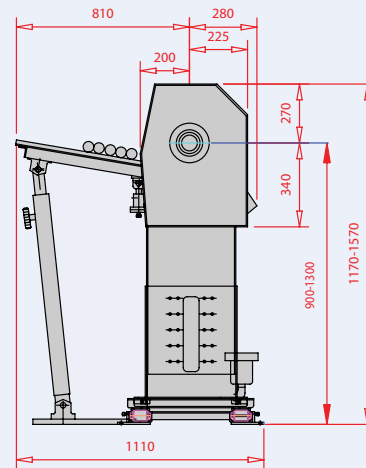
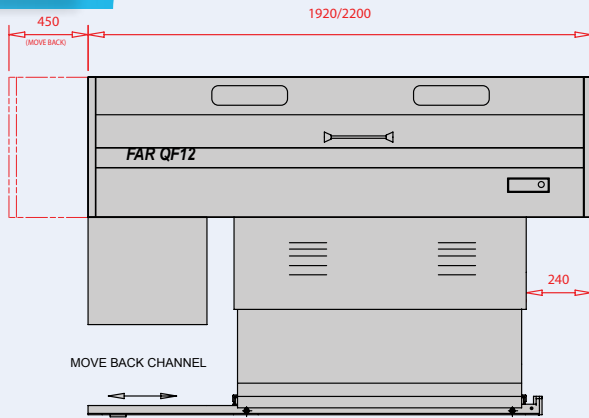
Specifications

Description	MF1	MF2	MF3
Bar dia. Range	2 – 22	8-45	12-80
Bar length (max)	3200	3200	3200
Bar magazine capacity	320mm	320mm	380mm
Feeding speed	650mm/sec.	600mm/sec.	600mm/sec.
Center height	950-1200mm	950-1200mm	950-1200mm
Bar support	Hydrodynamic in barfeeder and reduction tube inside the lathe spindle	Hydrodynamic in barfeeder and reduction tube inside the lathe spindle	Hydrodynamic in barfeeder and reduction tube inside the lathe spindle
Feeding	Hydraulic / Servo Motor	Hydraulic / Servo Motor	Hydraulic / Servo Motor
Bar straightness & preparation	0.5mm/1000mm Deburr, chamfering & end machining	0.5mm/1000mm Deburr, chamfering & end machining	0.5mm/1000mm Deburr, chamfering & end machining
Reloading time of fresh bar	20 sec..	25 sec..	30 sec..
Power supply voltage	415v 50hz 3phase	415v 50hz 3phase	415v 50hz 3phase
Power consumption	1.5kW	1.5kW	2kW
Weight of unit with out oil	750 kg	800kg	1100kg
Lubricating oil quality	60ltrs	70ltrs	80ltrs

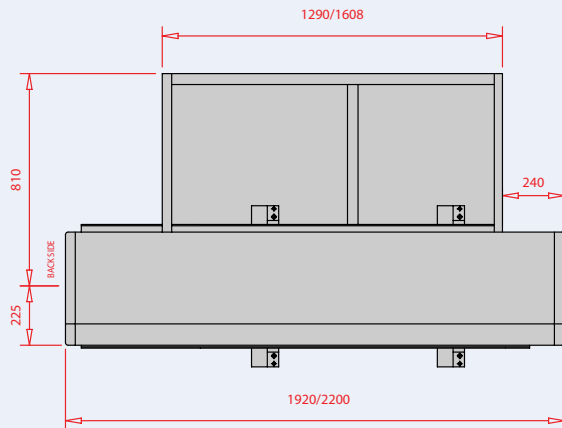


Servo permits smooth feeding cycle. Optimal automatic control of product infeed Accurate bar positioning without a mechanical stop

Models	QF-Servo 12/15 Servo
Bar diameter	6 - 65 mm
Bar length (Depends on spindle length of CNC)	1200/1500 mm
Center Height	950 - 1300
Capacity of material rack	6 mm - 165 nos
Spindle speed	no restriction
Guiding	Through reduction tube inside the spindle
Feeding	By Servo Motor
Speed	45 mtr/sec.
Positional Accuracy	0.5 mm
Straightness of bar	No restrictions
Bar preparation	Chamfering not required, a deburring is enough
Reloading time for fresh bar	15 seconds
Weight	350 kg
Power supply	230 V, Single phase, 50 HZ
Control	Electronic programmable controller
Foundation bolt	M 12 x 125 expansion bolt
Move back channel	450 mm
Programming feature	Standard



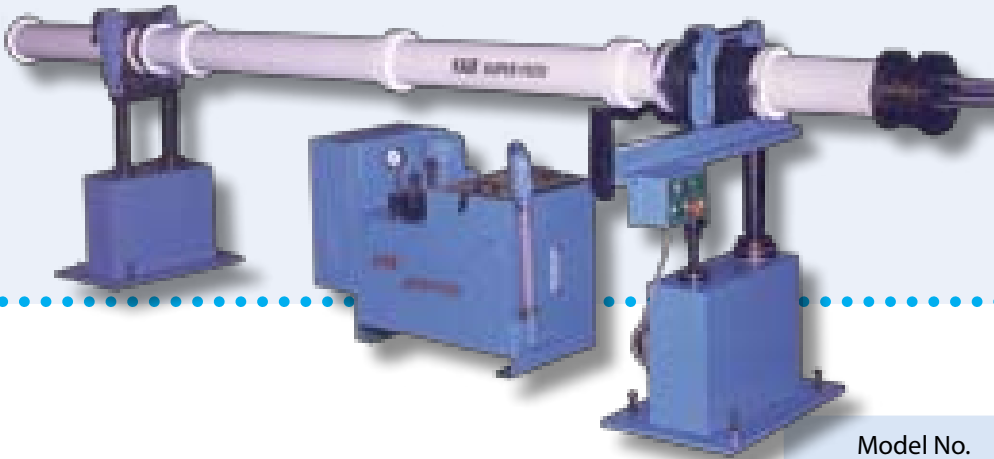
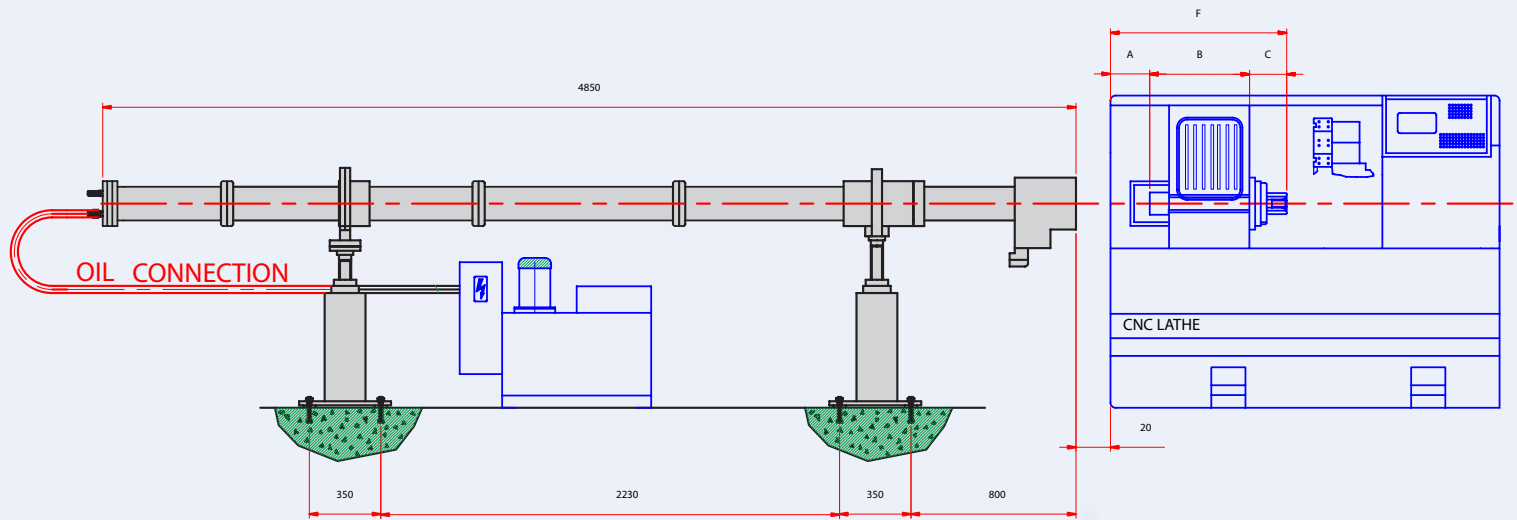
SPACE REQUIRED: 2370 LONG X 1040 WIDTH X 1570 HEIGHT FOR QF12
SPACE REQUIRED: 2650 LONG X 1040 WIDTH X 1570 HEIGHT FOR QF15



Short Bar [1.2/1.5m] High speed Bar feeders. Compact Design / Low floor space. 95% machine up time. No Bar end preparation. No restriction on speed. Bar diameter range (6-65mm). Bar profile - Round, Hexagon Tube , Square operation

Models	QF 12/15 Hydraulic / Pneumatic
Bar diameter	6 - 65* mm
Bar length (Depends on spindle length of CNC)	1200/1500 mm
Center Height	950 - 1300 mm
Capacity of material rack	6 mm - 165 nos
Spindle speed	no restriction
Guiding	Through reduction tube inside the spindle
Feeding	By hydraulic / Pneumatic pusher
Positional Accuracy	
Straightness of bar	No restrictions
Bar preparation	Chamfering not required, a deburring is enough
Reloading time for fresh bar	25 seconds
Weight	400 kg
Power supply	415 V, Three phase, 50 HZ / 230 V, Single phase, 50 HZ /
Control	Electronic Controller
Foundation bolt	M 12 x 125 expansion bolt
Move back channel	450 mm
Programming feature	Optional

* Also available bar range - 5 to 80 mm



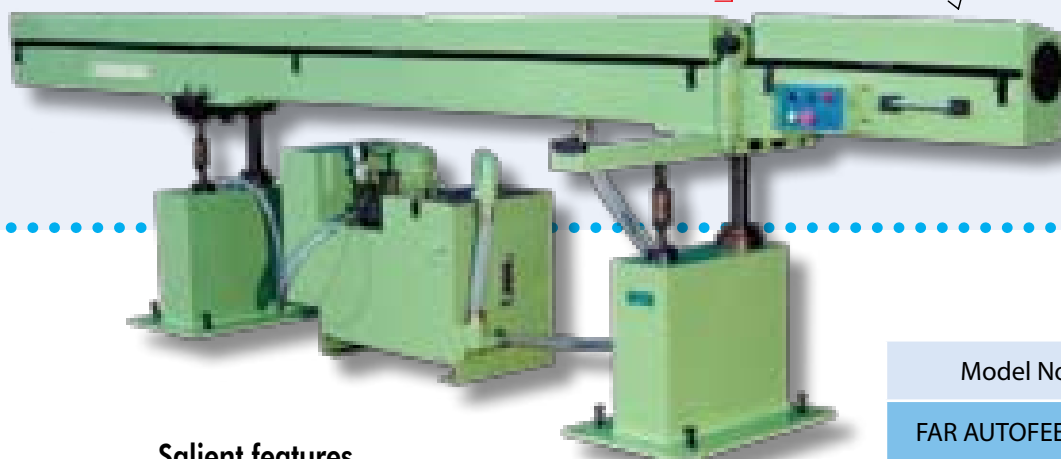
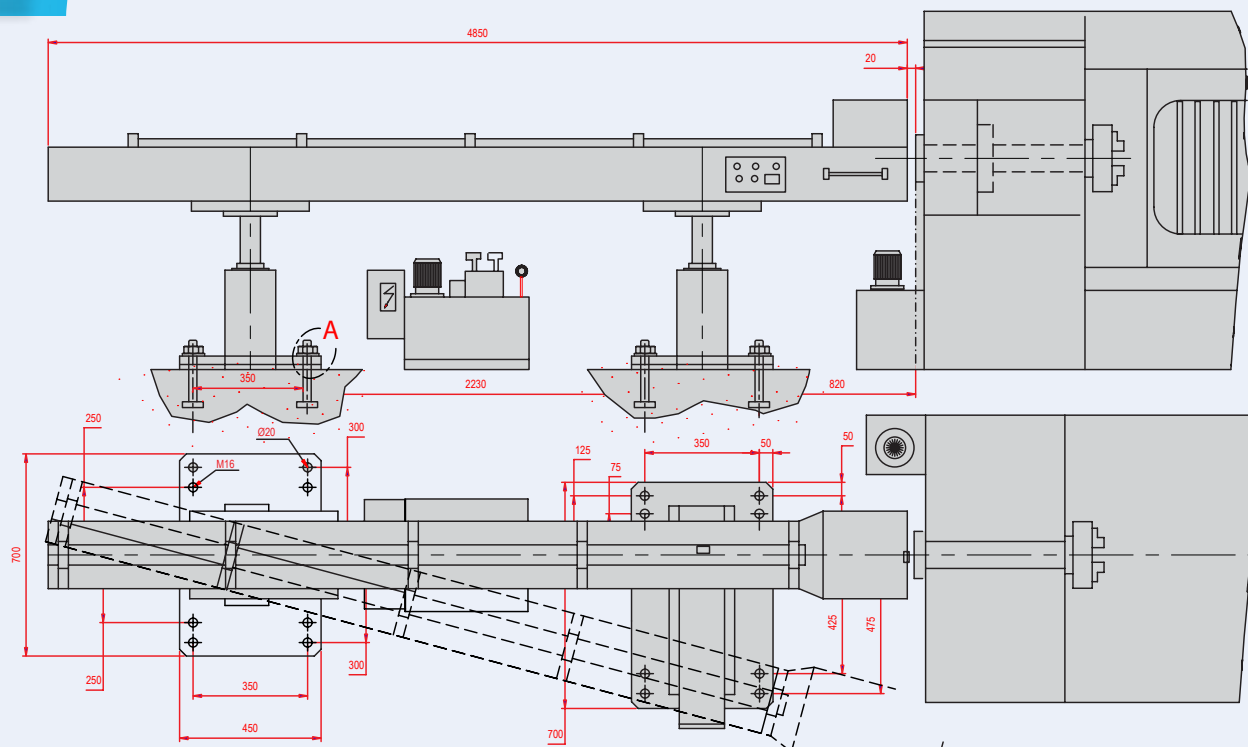
Salient features

- FAR SUPERFEED can be attached to any kind of turning machines with out making any modification to the machine. It is specially suited for high speed turning machines.
- No removal of guide tubes to accommodate the whole clamping range only manual indexing is sufficient
- Unattended bar machining possible by interfacing to the CNC system of the machine
- Round , hexagon, square and other profile can be fed
- Ground guide way facilitates free lateral and longitudinal movement
- FAR can supply any range according to the customer requirement

Model No.	Bar Range in mm
FAR SUPERFEED 22	10 to 22
FAR SUPERFEED 36	10 to 36
FAR SUPERFEED 44	10 to 44
FAR SUPERFEED 54	15 to 54
FAR SUPERFEED 65	20 to 65
FAR SUPERFEED 80	35 to 84

Specifications :

- Length of Bars: Standard models 3metres / 4metres (other length optional)
- Rotation speed: Rotational speed up to 4000rpm
- Hydraulics: Self contained hydraulic unit with high filtration capacity, tank capacity-100 liter, valves, pressure gauge
- Electrical equipment: Fully protected control and power circuits 440v,3phase, 50hz, .75 hp
- Weight: 700kg(approx)



Salient features

- FAR AUTOFEED can be attached to any kind of turning machines with out making any modification to the machine. It is specially suited for high speed turning machines. Unattended bar machining possible by interfacing to the CNC system of the machine.
- Retractable half moon segment eliminate decentralization and ovalization .This increases the speed of rotation.
- Guide tube can be changed within 3 minutes thus saving precious time.
- Round, hexagon, square and other profile can be fed
- Ground guide way facilitates free lateral and longitudinal movement.
- FAR AUTO FEED offers unique flexibility that, guiding tubes can be required as per requirement at any time.
- FAR AUTO FEED has been tested by Central machine tool institute (CMTI) Bangalore India.

Model No.	Bar Range in mm
FAR AUTOFEED 22	10 to 22
FAR AUTOFEED 36	10 to 36
FAR AUTOFEED 44	10 to 44
FAR AUTOFEED 54	10 to 54
FAR AUTOFEED 65	10 to 65
FAR AUTOFEED 80	10 to 84

Specifications :

- Length of Bars: Standard models 3metres / 4metres (other length optional)
- Rotation speed: Rotational speed up to 4000rpm
- Hydraulics: Self contained hydraulic unit with high filtration capacity, tank capacity-100 liter, valves, pressure gauge
- Electrical equipment: Fully protected control and power circuits 440v,3phase, 50hz, .75 hp
- Weight: 600kg(approx)

Barfeeders - at work



Barfeeder - at work

FAR Barfeeders are also installed in many countries world over.





USA



CANADA



BRAZIL



SPAIN



FRANCE



ITALY



EGYPT



TURKEY



UAE



SAUDI ARABIA



CHINA



THAILAND



TAIWAN



AUSTRALIA



Authorised Dealer



FENWICK AND RAVI

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