

RATHI TRANSPower PVT. LTD. PUNE - INDIA

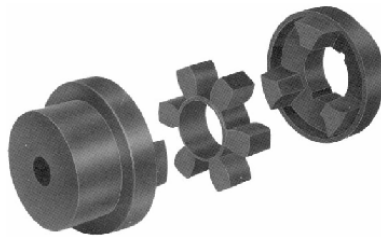
PRODUCT MANUAL

JAW-FLEX COUPLING

(L,RFC,RRJ,SW,H,RRL,RRS,SWQ,HR,SWS)



L



RFC



RRJ



SW



H



RRS



SWQ



HR



SWS

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JAW-FLEX COUPLING

STANDARD FEATURES

- Simple in construction
- No need of lubrication
- Low initial & operational cost
- Provides torsional vibration isolation and damping
- No metal to metal contact, hence electrically insulated
- Endures momentary overload or overspeed
- Easy to assemble and dismantle (even without disturbing shafts)
- Permits angular, axial, parallel or combination of these misalignments
- All metal parts are coated with anti-corrosive agents
- Can be modified as per customer's specific requirement

AT A GLANCE

- Sizes : 32 (L-035 to HR-1117)
- Power Rating : 0.004 to 4085 kW @ 100 rpm
- Max. Bore : Upto 600 mm.
- Misalignment
 - a) Parallel - 0.4 mm.
 - b) Angular - 1°
 - c) Axial - For sizes
 - from 035 to 050 : ± 0.5 mm.
 - from 070 to 100 : ± 1.0 mm.
 - from 110 to 457 : ± 1.5 mm.
 - from 509 to 911 : ± 3.0 mm.

JAW-FLEX COUPLING**JAW FLEX FAMILY**

- Basic Types - L/SW, H, HR, RFC, RRJ
- Application wise -
 - Spacer type : SWQ, RRL, RRS, SWS
 - Flange type : LF, SWF, HF, HRF, SWSF
 - Drum type : LD, SWD, HD, HRD
 - Shear Pin type : HS, HRS

Other combinations are available on request.

- e.g. Flange with spacer type
Flange with shear pin type

Type	Sizes available
L	035 to 2955
SW	095 to 350
RFC	7 to 28
RRJ	19 to 90
RRL	095 to 225
RRS	095 to 226
SWQ	226 to 350
SWS/SWSF	276 to 350
LF	095 to 2955
SWF	095 to 350
LD	095 to 225
SWD	226 to 350
H/HF/HD/HS	307 to 367
HR/HRF/HRD/HRS	307 to 1117

JAW-FLEX COUPLING

ELASTOMER INFORMATION

- RATHI is the only manufacturer, which produces its own rubber elements in a whole range of compounds, by conducting specific research and development into rubber engineering technology.
- By combining the benefits of this technology with mechanical expertise we can optimise power transmission solutions.
- Full laboratory control and a wide range of specialised equipments ensure high quality and consistency in product performance.
- Specialised compounds can be developed in our laboratories to meet specific requirements.

Recommended Elastomers for Jaw-flex Coupling

Sr. No.	Type of Elastomer Criteria	Nitrile	High Strength Nitrile	Neoprene	Poly-urethane	Silicone	Viton	Polyacrylic
1	Temperature (° C)							
	Working	100	100	100	71	100 to 200	200	170
	Intermittent	120	120	120	91	300	250	200
2	Resistant to Grease, Oils	Good	Good	Good	Very Good	Poor	Excellent	Very Good
	Chemicals	Fair	Fair	Fair	Fair	Good	Very Good	Good
	Abrasion	Good	Very Good	Good	Excellent	Poor	Good	Good
	Hot Water	Good	Good	Good	Poor	Excellent	Excellent	Good
3	Insulation	Good	Good	Good	Good	Excellent	Good	Good
4	Shore Hardness 'A'	80 ±5	90 ±5	80 ±5	90 ±5	70 ±5	80 ±5	80 ±5
5	Torsional Rigidity	Soft	Medium	Medium	Rigid	Soft	Medium	Medium
6	Torque Carrying Capacity	Good	Very Good	Good	Excellent	Fair	Good	Good
7	Application	For all normal applications	High torque & low speed applications	Resistant to Ozone atmosphere	Very high torque & low speed applications	If working temp. is 100° to 200° C & no oil is present	High working temp. & oil resistant	Working temp. 150° & oil upto resistant

**JAW-FLEX COUPLING
STD. MATERIAL OF CONSTRUCTION**

COMPONENT	TYPE	SIZE	MATERIAL	
HUB/ADAPTER	L	035 to 095	SINTERED IRON	
		050-190	LM-24	
	L/LD/SW/RRS/RRL	095-225	CI-GR. FG 200	
	L	226-2955	CI-GR. FG 260	
	TL/TSW	099-350	CI-GR. FG 300	
	SW/SWD/SWQ/SWS	226-350	CI-GR. FG 260	
	RRS	226	CI-GR. FG 260	
	RFC		7-13 B,F/H	CI-GR. FG 200
			15-28 B, F/H	CI-GR. FG 260
	RRJ		19-28	LM-2
			38-90	CI-GR. FG 260
			19-28	MS(ASTM A105)
			38-90	CS-200-400W
	H/HD/TH		307-367	CI-GR. FG 300
HR		307-1117	SG 400/15	
HS		307-457	CI-GR. FG 300	
SPACER	RRS	095-226	LM-24	
	RRL	095-225	CI-GR. FG 200	
	SWQ/SWS/SWSR(JAW BODY)	226-350	CI-GR. FG 260	
	HR (JAW BODY)	307-1117	SG 400/15	
	SWS	226-2955	SG 400/10	
	SWS/SWSR/SWSF	226-350	ASTM A-106,MS IS 2002 (ASTM A 105)	
OUTSIDE RING	HR	1013-1117	SG 400/15	
	H	307-367	CRCA	
	HR	307-9011	MS(ASTM A105)	
	SW	095-350	CRCA	
	RRS	095-226		
	SWQ/SWD/SWS	226-350		
INSIDE RING	H	307-367	MS(ASTM A105)	
	HR	307-1117		
COUPLING BOLT	RRL	095-225	HH BOLT GR. 10.9	
	SWQ/SWS	226-350		
	HR	307-1117		
OUT SIDE RING BOLT	SW/RRS	95-225	CH SCREW -SS	
	SW	226-280	HH BOLT 8.8	
	RRS	226	HH BOLT 8.8	
	SW	276	AH BOLT 8.8	
	SW/SWQ	295-350	HH BOLT 8.8	
	SWQ	226-280	HH BOLT 8.8	
	SWS	226-350	HH BOLT 8.8	
	H	307-367	HH BOLT 8.8	
	HR	307-1117	AH BOLT 8.8	

COMPONENT	TYPE	SIZE	MATERIAL
SPIDER	L	35	NITRILE RUBBER
	L	50-225	NR/PU/HY
	L	50-225	PHOSPHOR BRONZE
	L	226-295	NR/PU
	L	2955	NITRILE RUBBER
SNAP WRAP	SW/RRS	95-225	NR/PU/HY
T CUSHIONS	RRS	226	NR/PU/HY
	SW/SWQ/SWS	226-350	
SPIDER	RFC	7-28B	NITRILE RUBBER
	RRJ	19-90	PU (RED/ YELLOW)
CUSHIONS	H	307-367	NR/ PU/ HY
	HR	307-809	NITRILE RUBBER
	HR	307-1115	PU / HY

Note :- Alternate material available on request, consult RATHI.

JAW-FLEX COUPLING

SPECIAL FEATURES OF VARIOUS TYPES OF JAW-FLEX COUPLING

A. L TYPE (Refer fig. 1)

- Simple in construction. Consists of two hubs & a spider.
- Every other spider arm is an idler arm and can be advanced to load carrier jaws. Hence it functions as a spare spider in every coupling.
- Spiders can be provided of various materials with different shore hardness to meet application requirement.
- Couplings can be supplied with taper bushes (ref. fig. 2)

B. SW TYPE (Refer fig. 3)

- Replacement / inspection of elastomeric member (i.e. snapwrap) done without disturbing existing alignment.
- Less down time & easy for replacement of snapwrap.
- Couplings can be supplied with taper bushes (ref. fig. 4)

C. H TYPE (Refer fig. 5)

- Ratings are higher than 'SW' type, hence used for heavy duty application.
- Individual free floating load cushions held in place by outside ring.
- Easy to assemble & dismantle.
- Cushions easily inspected at all times.
- Couplings can be supplied with taper bushes (ref. fig. 6)

D. HR TYPE (Refer fig. 7)

- Higher in rating than L/SW, H type.
- Fixed spacer length type coupling helps to provide independent running requirement.
- Less down time of replacement of cushions and rapid disconnection without disturbing existing alignment.

E. RRL TYPE (Refer fig. 8)

- Spacer type coupling using spider as a flexible element.
- Used where rapid disconnection disturbing the drive or driven unit.
- Easy to assemble & disassemble.
- Disconnection of spacer assembly helps to provide independent running requirement.

F. RRS TYPE (Refer fig. 9)

- Spacer type coupling and is simple in construction.
- Use of Aluminium spacer gives advantage of lightweight coupling & lower MI.
- Spacer can be dropped out very easily without bolt extraction problems.
- Use of two elastomeric members gives double misalignment capacity, flexibility & smoother power transmission.
- Easy for visual inspection / replacement of snapwrap. Hence less down time.
- Low inventory cost as no need to stock all parts due to interchange ability with L/SW couplings.

G. SWQ TYPE (Refer fig. 10)

- Spacer type coupling using snapwrap/T-cushions as flexible elements.
- Individual replacement of T cushion reduces replacement cost.
- Used where rapid disconnection without disturbing the drive or driven unit is required.

H. SWS TYPE (Refer fig. 11)

- Modified Jaw type spacer coupling for back pull out pump & motor.
- Comparatively light in weight.
- Suitable for horizontal & vertical application.
- Low inventory cost.

I. SWSF TYPE (Refer fig. 12)

- Modified Jaw type spacer coupling for diesel engine & back pull out pump.
- Uses std. SAE flanges, which can accommodate different sizes of couplings.
- Suitable for high speed application.
- Std. SWS coupling can be converted into flange connection.

**J. DRUM TYPE COUPLING (Refer fig. 13, 14)
(LD/SWD/HD/HRD)**

- Used in applications where braking is required. Brake shoe applies braking force on drum provided with coupling e.g. conveyors, elevators, etc.
- Drums are provided in two types:-
 - i) Integral drum - 095 to 225
 - ii) Fabricated drum-226 & above

Drums are available in C.I./M.S./C.S.

**K. FLANGE TYPE COUPLING (Refer fig. 15, 16)
(LF/SWF/HF/HRF)**

- Used for connecting coupling in engine driven applications e.g. generators, fire fighting pumps, etc.
- Flanges are available in two types:-
 - i) Integral with coupling hub/adaptor
 - ii) Bolted with coupling hub/adaptor.
- Std. SAE flanges are available. Non standard flanges can be given on request.
- Integral flanges are available in C.I./C.S.
- Bolted type flanges are available in M.S.

L. SHEAR PIN TYPE COUPLING (Refer fig. 17)
(HS/HRS)

- Used in limited torque applications e.g. torque transmission is to be stopped at some specified torque given by user.
- Protects equipment from damaging in case of overload.
- Shear pins can be replaced easily hence less down time.

M. RFC TYPE (Refer fig. 18)

- Is a Jaw coupling having unmachined jaws.
- The interlinking hubs acts as an additional safeguard even though flexible element fails.
- Protects flexible element from effect of corrosive atmosphere, oil, heat, etc.

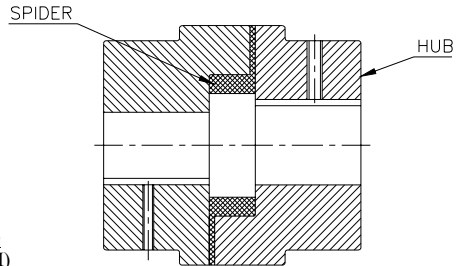
N. RRJ TYPE (Refer fig. 19)

- Jaw coupling having unmachined jaws.
- Operational vibrations and shocks are efficiently dampened and reduced.
- Equivalent to KTR Rotex.

JAW-FLEX COUPLING

CONSTRUCTION DETAILS OF VARIOUS TYPES

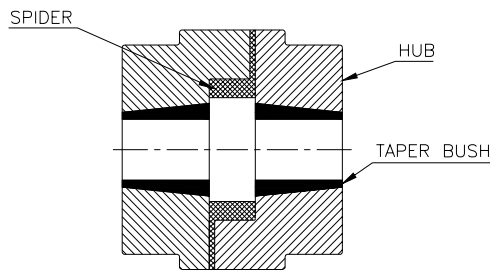
TYPE - L ASSLY.



SIZES - L-035 TO 075 (SI)
L-050 TO 190 (AI)
L-095 TO 2955 (CI)

FIG.NO.1

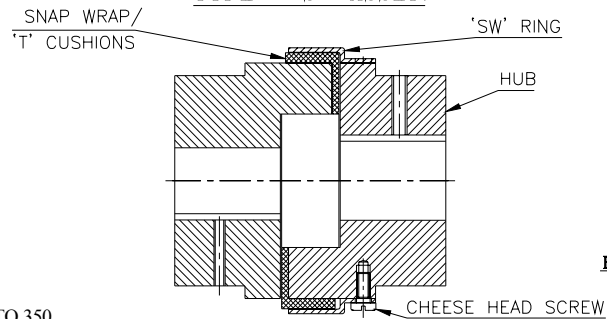
TYPE - TL ASSLY.



SIZES -TL-099 TO 2955

FIG.NO.2

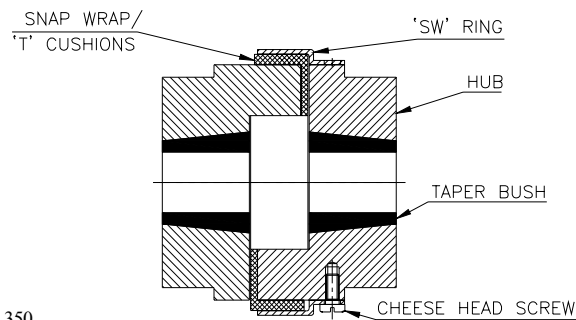
TYPE - SW ASSLY.



SIZES -SW-095 TO 350

FIG.NO.3

TYPE - TSW ASSLY.



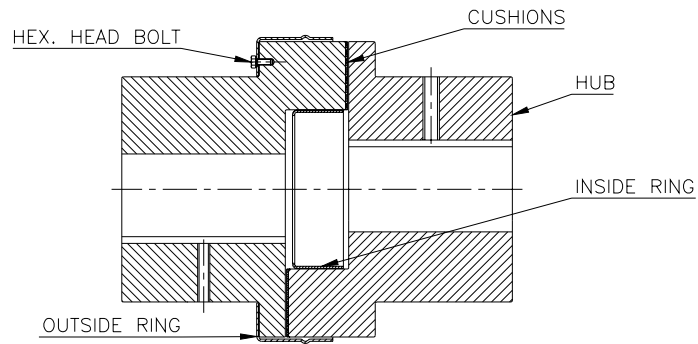
SIZES -TSW-095 TO 350

FIG.NO.4

JAW-FLEX COUPLING

CONSTRUCTION DETAILS OF VARIOUS TYPES

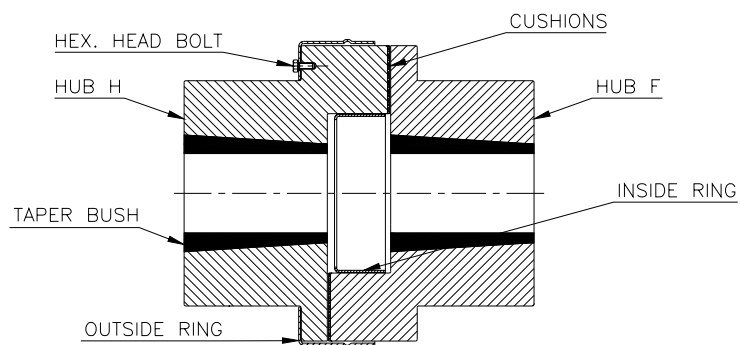
TYPE - H ASSLY.



SIZES - H-307 TO 367

FIG.NO.5

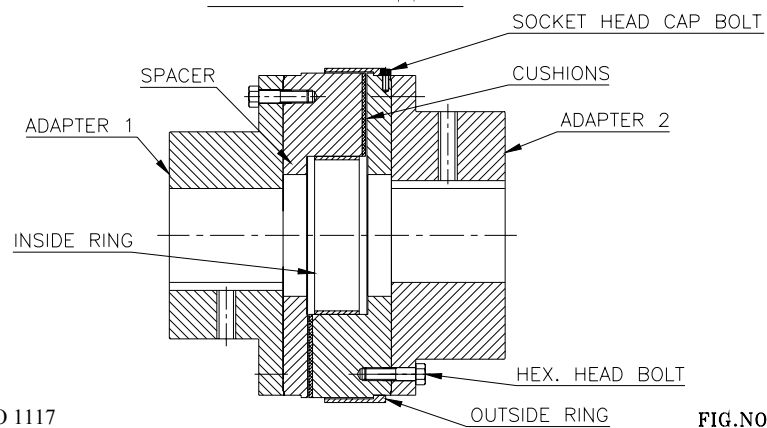
TYPE - TH ASSLY.



SIZES - TH-307 TO 367

FIG.NO.6

TYPE - HR ASSLY.



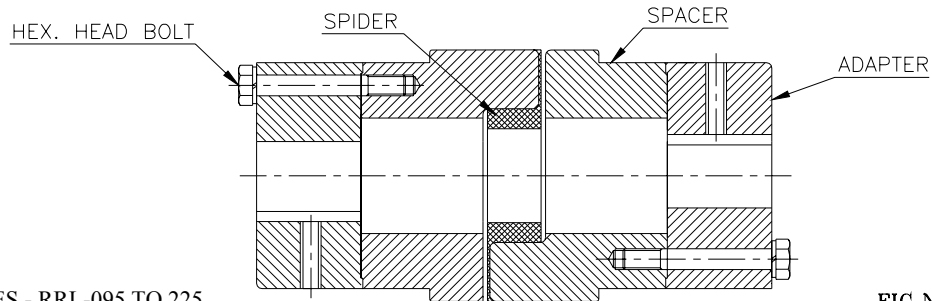
SIZES - HR-307 TO 1117

FIG.NO.7

JAW-FLEX COUPLING

CONSTRUCTION DETAILS OF VARIOUS TYPES

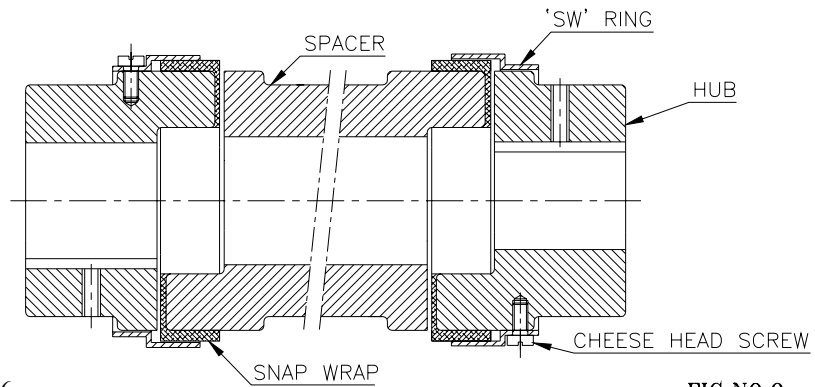
TYPE - RRL ASSLY.



SIZES - RRL-095 TO 225

FIG.NO.8

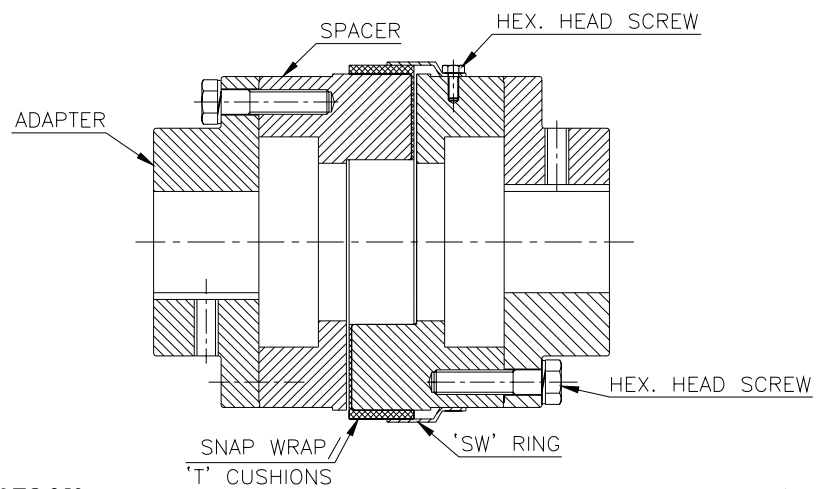
TYPE - RRS ASSLY.



SIZES - RRS-095 TO 226

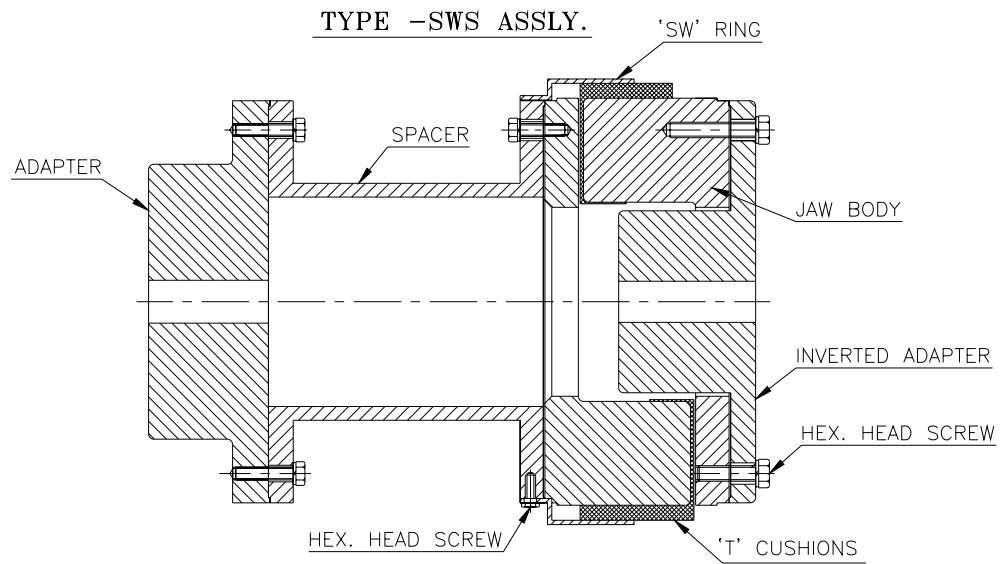
FIG.NO.9

TYPE -SWQ ASSLY.



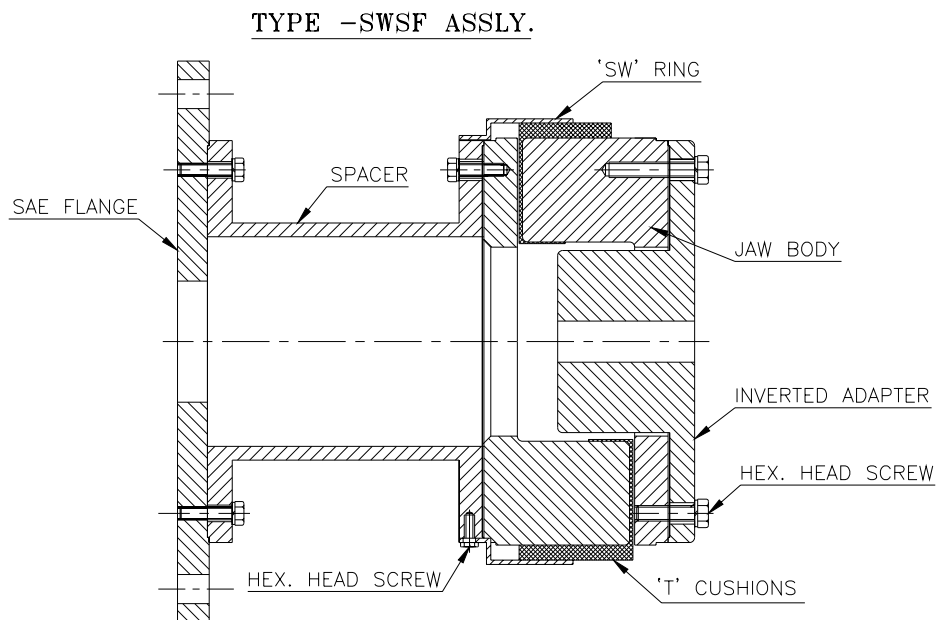
SIZES - SWQ-226 TO 350

FIG.NO.10

JAW-FLEX COUPLING**CONSTRUCTION DETAILS OF VARIOUS TYPES**

SIZES - SWS-276 TO 350

FIG.NO.11



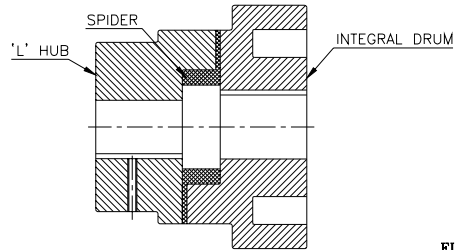
SIZES - SWSF-276 TO 350

FIG.NO.12

JAW-FLEX COUPLING

CONSTRUCTION DETAILS OF VARIOUS TYPES

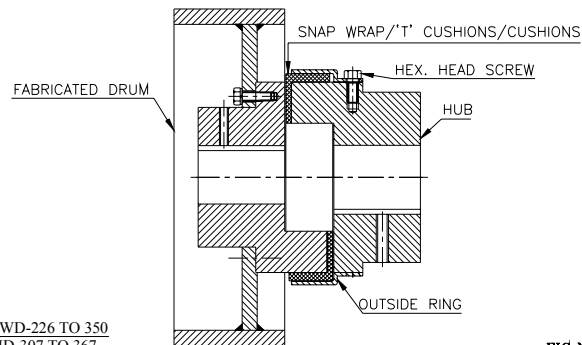
TYPE - LD ASSLY.



SIZES - LD-095 TO 225

FIG.NO.13

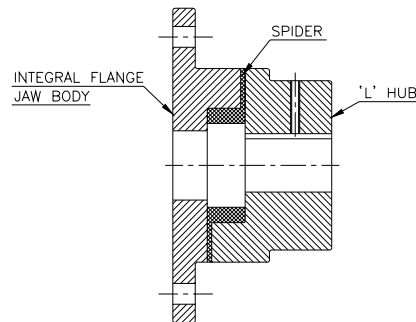
TYPE - SWD, HD ASSLY.



SIZES -SWD-226 TO 350
HD-307 TO 367

FIG.NO.14

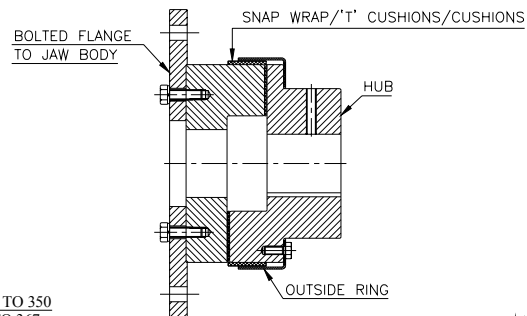
TYPE - LF ASSLY.



SIZES - LF-095 TO 2955

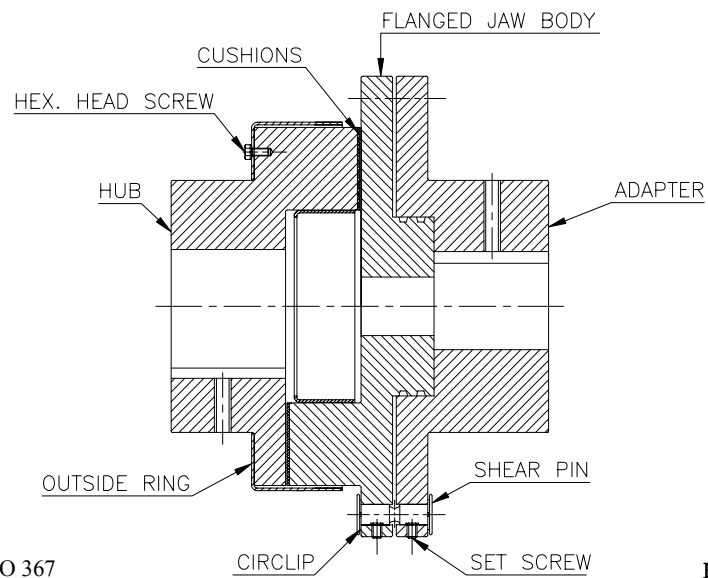
FIG.NO.15

TYPE - SWF, HF, HRF ASSLY.



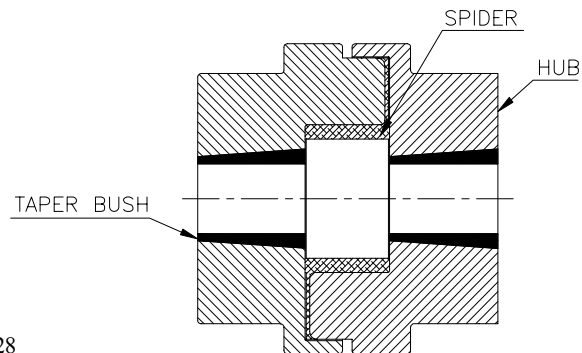
SIZES -SWF-095 TO 350
HF-307 TO 367

FIG.NO.16

JAW-FLEX COUPLING**CONSTRUCTION DETAILS OF VARIOUS TYPES****TYPE - HS ASSLY.**

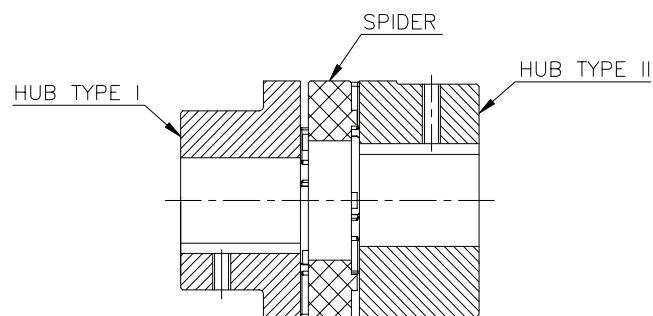
SIZES - HS-307 TO 367

FIG.NO.17

TYPE - RFC ASSLY.

SIZES -RFC-7 TO 28

FIG.NO.18

TYPE - RRJ ASSLY.

SIZES -RRJ-19 TO 90

FIG.NO.19

JAW-FLEX COUPLING**FEATURES OF CONVERSION OF RRS-SW-L****A. RRS Type**

- Consists of a SW Assembly, an Aluminium spacer with two SW kits. (The SW kit comprises of a SW ring, a Snapwrap & a set of screws & washers.)
- No need to stock all parts except spacer kits (a RRS spacer & a SW kit). Hence low inventory cost.
- Consists of two elastomeric members i.e. snapwraps, hence gives increased misalignment capability.
- Use of Aluminium spacer gives advantage of lightweight coupling & lower moment of inertia.

B. SW Type

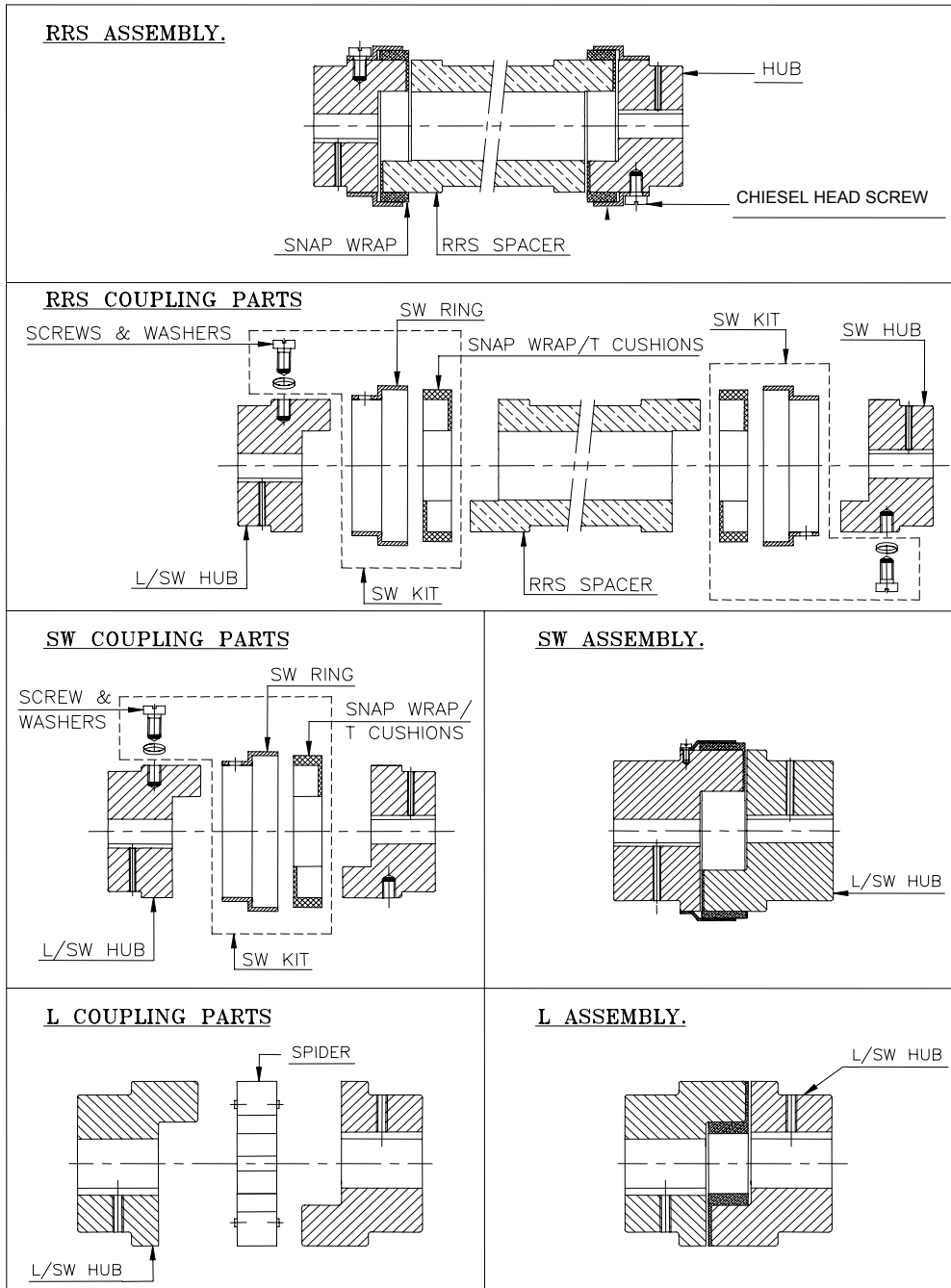
- Consists of two hubs and a SW kit.
- L assembly can be converted into SW assembly by replacing spider from L assy. with SW kit.
- Only SW kit to be kept in stock. Hence low inventory cost.
- Replacement/inspection of snapwrap done without disturbing existing alignment. Hence less down time.

C. L Type

- Consists of two L hubs and a spider. Hence simple in construction.
- Tapped holes are provided on jaw OD, which helps to use same hubs for SW & RRS Assy.
- Every other spider arm is an idler arm and can be advanced to load carrier jaws. Hence it functions as a spare spider in every coupling.

JAW-FLEX COUPLING

FEATURES OF CONVERSION OF RRS-SW-L



JAW-FLEX COUPLING

STANDARD RATINGS FOR JAW-FLEX COUPLINGS

Coupling Size	Rated Torque			Rated Power			
	Nm	Kg-m	Lbs-in.	@100 RPM		@1500 RPM	
				kW	HP	Kw	HP
35	0.38	0.04	3	0.004	0.005	0.06	0.08
50	2.8	0.29	25	0.03	0.040	0.45	0.60
70	4.9	0.50	43	0.05	0.07	0.75	1.0
75	9.8	1.00	87	0.1	0.13	1.5	2.0
95	21.1	2.15	187	0.22	0.30	3.3	4.4
99	35.1	3.58	311	0.37	0.50	5.55	7.4
100	46.4	4.73	411	0.49	0.66	7.35	9.9
110	89	9.08	788	0.93	1.25	13.95	18.7
150	141	14.38	1248	1.5	2.01	22.5	30.2
190	190	19.37	1682	2.0	2.68	30	40.2
225	265	27.02	2345	2.8	3.75	42	56.3
226	327	33.34	2894	3.4	4.56	51	68.4
276	532	54.2	4709	5.6	7.51	84	112.6
280	782	79.7	6921	8.2	11	123	165
295	1279	130.4	11320	13.4	18	201	270
2955	2132	217.4	18870	22.3	30	334.5	449
300	3047	310.7	26968	31.9	43	478.5	642
350	4308	439.3	38129	45.1	60	676.5	907
307	5348	545.3	47334	56	75	840	1126
357	7162	730.3	63389	75	101	1125	1509
367	9931	1012.7	87897	104	139	1560	2092
407	14228	1451	125928	149	200	2235	2997
457	19194	1957	169881	201	270	3015	4043
509	34186	3486	302572	358	480	5370	7201
609	50325	5132	445414	527	707	7905	10601
709	70474	7186	623748	738	990	11070	14845
809	87663	8939	775883	918	1231	13770	18466
911	101414	10341	897590	1062	1424	15930	21362
1013	151547	15453	1341305	1587	2128	23805	31923
1015	210085	21423	1859410	2200	2950	33000	44254
1115	254966	25999	2256640	2670	3581	40050	53708
1117	390089	39778	3452580	4085	5478	61275	82171

JAW FLEX COUPLING

WEIGHT & MI. FOR L - TYPE JAW FLEX COUPLINGS

COUPLING SIZE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
		WR ²	GD ²
L-035 SI	0.02	7.28 X 10 ⁻⁸	2.912 X 10 ⁻⁷
L-050 SI	0.12	1.21 X 10 ⁻⁶	4.84 X 10 ⁻⁶
L-070 SI	0.26	4.67 X 10 ⁻⁶	1.87 X 10 ⁻⁵
L-075 SI	0.44	1.19 X 10 ⁻⁵	4.76 X 10 ⁻⁵
L-070 AL	0.12	2.14 X 10 ⁻⁶	8.56 X 10 ⁻⁶
L-075 AL	0.19	5.34 X 10 ⁻⁶	2.14 X 10 ⁻⁵
L-095 AL	0.31	1.15 X 10 ⁻⁵	4.6 X 10 ⁻⁵
L-100 AL	0.61	3.13 X 10 ⁻⁵	1.25 X 10 ⁻⁴
L-095 CI	0.75	2.88 X 10 ⁻⁵	1.15 X 10 ⁻⁴
L-100 CI	1.50	7.67 X 10 ⁻⁵	3.07 X 10 ⁻⁴
L-110 CI	3.20	2.77 X 10 ⁻⁴	1.11 X 10 ⁻³
L-150 CI	3.90	4.19 X 10 ⁻⁴	1.68 X 10 ⁻³
L-190 CI	7.50	0.0120	0.048
L-225 CI	10.50	0.0180	0.072
L-226 CI	13.00	0.0280	0.112
L-276 CI	19.00	0.0500	0.2
L-280 CI	25.00	0.0960	0.384
L-295 CI	44.00	0.2560	1.024
L-2955 CI	51.00	0.3020	1.208

Note: Weight & MI. are with Min. Bores.

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JAW FLEX COUPLING

WEIGHT & MI. FOR SW, H, HR - TYPE JAW FLEX COUPLINGS

COUPLING SIZE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
		WR ²	GD ²
SW-095	0.80	3.67 X 10 ⁻⁴	1.59 X 10 ⁻³
SW-100	1.58	8.73 X 10 ⁻⁴	3.5 X 10 ⁻³
SW-110	3.31	3.02 X 10 ⁻³	0.01208
SW-150	4.05	4.62 X 10 ⁻³	0.01848
SW-190	7.70	0.0128	0.0512
SW-225	10.70	0.0190	0.076
SW-226	15	0.0300	0.12
SW-276	21	0.0530	2.12
SW-280	29	0.1020	0.408
SW-295	48	0.2710	1.084
SW-2955	59	0.3200	1.28
SW-300	86	0.4100	1.64
SW-350	132	0.8210	3.284
H-307	58	0.4880	1.952
H-357	73	0.7510	3.004
H-367	105	1.1550	4.62
HR-307	59	0.5	2
HR-357	76	0.8	3.2
HR-367	109	1.26	5.04
HR-407	120	1.78	7.12
HR-457	174	2.7180	10.872
HR-509	185	3.0850	12.34
HR-609	252	5.4870	21.948
HR-709	374	10.5720	42.288
HR-809	574	20.5760	82.304
HR-911	850	37.7900	151.16
# HR-1013	-	-	-
# HR-1015	-	-	-
# HR-1115	-	-	-
# HR-1117	-	-	-

Note: Weight & MI. are with Min. Bores.

- Products are under development, data will be updated later.

.....Contd. On next page

JAW FLEX COUPLING

WEIGHT & MI. FOR RRS, SWQ-TYPE JAW FLEX COUPLINGS

COUPLING SIZE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
		WR ²	GD ²
RRS-095 (90)	1.1	4.5 X 10 ⁻⁴	1.8 x 10 ⁻³
RRS-095 (100)	1.13	4.6X 10 ⁻⁴	1.84 x 10 ⁻³
RRS-095 (140)	1.3	5.1 X 10 ⁻⁴	2.04 x 10 ⁻³
RRS-100 (90)	2.17	1.34 X 10 ⁻³	5.36 x 10 ⁻³
RRS-100 (100)	2.2	1.37 X 10 ⁻³	5.48 x 10 ⁻³
RRS-100 (140)	2.38	1.46 X 10 ⁻³	5.84 x 10 ⁻³
RRS-110 (90)	3.93	3.8 X 10 ⁻³	0.0154
RRS-110 (100)	4.02	3.92 X 10 ⁻³	0.0157
RRS-110 (140)	4.4	4.24 X 10 ⁻³	0.0169
RRS-150 (90)	4.97	6.25 X 10 ⁻³	0.025
RRS-150 (100)	5.0	6.18 X 10 ⁻³	0.0247
RRS-150 (140)	5.3	6.5 X 10 ⁻³	0.026
RRS-190 (90)	9.0	0.015	0.06
RRS-190 (100)	9.2	0.016	0.064
RRS-190 (140)	9.7	0.017	0.068
RRS-225 (90)	12.2	0.024	0.096
RRS-225 (100)	12.4	0.025	0.1
RRS-225 (140)	12.9	0.026	0.104
RRS-226 (100)	15.6	0.037	0.148
RRS-226 (140)	16.4	0.039	0.156
RRS-226 (180)	17.1	0.041	0.164
SWQ-226 (140)	22.50	0.0583	0.2332
SWQ-226 (180)	26.00	0.0681	0.2724
SWQ-276 (140)	27.75	0.0846	0.3384
SWQ-276 (180)	32.75	0.1016	0.4064
SWQ-280 (140)	35.00	0.1590	0.636
SWQ-280 (180)	42.00	0.1968	0.7872
SWQ-295 & 2955 (140)	57.60	0.3900	1.56
SWQ-295 & 2955 (180)	68.50	0.4700	1.88
SWQ-300 (140)	69.30	0.5300	2.12
SWQ-300 (180)	81.00	0.6400	2.56
SWQ-350 (140)	101.50	1.0670	4.268
SWQ-350 (180)	119.30	1.3070	5.228

Note: Weight & MI. are with Min. Bores.

.....Contd. On next page

JAW FLEX COUPLING

WEIGHT & MI. FOR SWS, SWSF - TYPE JAW FLEX COUPLINGS

COUPLING SIZE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
		WR ²	GD ²
SWS-226 (140)	17.40	0.0400	0.16
SWS-226 (180)	18.00	0.0400	0.16
SWS-276 (140)	22.50	0.0570	0.228
SWS-276 (180)	23.10	0.0580	0.232
SWS-280 (140)	33.40	0.1320	0.528
SWS-280 (180)	34.30	0.1350	0.54
SWS-295 (140)	56.90	0.3460	1.384
SWS-295 (180)	58.60	0.3540	1.416
SWS-2955 (140)	59.30	0.3560	1.424
SWS-2955 (180)	60.90	0.3640	1.456
SWS-300 (140)	74.90	0.5150	2.06
SWS-300 (180)	77.10	0.5300	2.12
SWS-350 (140)	98.00	0.6800	2.72
SWS-350 (180)	101.00	0.6900	2.76
SWSF W/O FLANGE			
SWSF-226 (140)	12.50	0.0290	0.116
SWSF-226 (180)	13.10	0.0300	0.12
SWSF-276 (140)	15.70	0.0400	0.16
SWSF-276 (180)	16.30	0.0410	0.164
SWSF-280 (140)	23.90	0.1000	0.4
SWSF-280 (180)	24.80	0.1030	0.412
SWSF-295 (140)	42.60	0.2700	1.08
SWSF-295 (180)	44.20	0.2770	1.108
SWSF-2955 (140)	43.80	0.2800	1.12
SWSF-2955 (180)	45.40	0.2850	1.14
SWSF-300 (140)	51.70	0.3820	1.528
SWSF-300 (180)	54.00	0.3900	1.56
SWSF-350 (140)	71.60	0.4540	1.816
SWSF-350 (180)	73.70	0.4640	1.856

Note: Weight & MI. are with Min. Bores.

JAW FLEX COUPLING

WEIGHT & MI. FOR RRJ COUPLING

COUPLING SIZE	COUPLING TYPE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
			WR ²	GD ²
RRJ-19	I	0.11	2.3 X 10 ⁻⁵	9.2 X 10 ⁻⁵
	II	0.14	4.3 X 10 ⁻⁵	1.72 X 10 ⁻⁴
RRJ-24	I	0.24	9 X 10 ⁻⁶	3.6 X 10 ⁻⁴
	II	0.34	19 X 10 ⁻⁵	7.6 X 10 ⁻⁴
RRJ-28	I	0.39	20 X 10 ⁻⁵	8 X 10 ⁻⁴
	II	0.54	42 X 10 ⁻⁵	1.68 X 10 ⁻³
RRJ-38	I	2.0	1.85 X 10 ⁻³	7.4 X 10 ⁻³
	II	2.4	2.45 X 10 ⁻³	9.8 X 10 ⁻³
	III	3.6	3.72 X 10 ⁻³	0.014
RRJ-42	I	3.2	4.1 X 10 ⁻³	0.016
	II	3.8	5.90 X 10 ⁻³	0.023
	III	5.5	8.54 X 10 ⁻³	0.034
RRJ-48	I	4.4	6.2 X 10 ⁻³	0.024
	II	5.2	9.6 X 10 ⁻³	0.038
	III	4.2	13.4 X 10 ⁻³	0.053
RRJ-55	I	6.6	12.3 X 10 ⁻³	0.049
	II	7.5	17.3 X 10 ⁻³	0.0692
	III	10.2	23.7 X 10 ⁻³	0.094
RRJ-65	I	10.1	24.5 X 10 ⁻³	0.098
	II	11.5	27.8 X 10 ⁻³	0.11
	III	15.0	36.3 X 10 ⁻³	0.14
RRJ-75	I	16	54 X 10 ⁻³	0.21
	II	18.2	61.4 X 10 ⁻³	0.24
	III	21.2	71.5 X 10 ⁻³	0.28
RRJ-90	I	27.5	138 X 10 ⁻³	0.55
	II	36.3	182 X 10 ⁻³	0.72
	III	44.8	225 X 10 ⁻³	0.9

Notes:-

- 1) Weight & MI. Of coupling assembly refer to maximum finish bore without keyway.
- 2) Standard material for RRJ-19 to 28 is Aluminium & RRJ-38 to 90 is Cast iron.
- 3) Alternate hub material available on request – Steel (Size 19 to 90), S.G. Iron (Sizes 38 to 90).

JAW FLEX COUPLING**WEIGHT & MI. FOR RFC COUPLING**

COUPLING SIZE	APPROX. Wt. kg	MI. in Kgm ² (Approx.)	
		WR ²	GD ²
RFC 7	1	0.00085	3.4 X 10 ⁻³
RFC 9	1.17	0.00115	4.6 X 10 ⁻³
RFC 11	5	0.0040	0.016
RFC 13	5.46	0.00780	0.0312
RFC 15	7.11	0.01810	0.724
RFC 18	16.60	0.04340	0.1736
RFC 23	26	0.12068	0.48
RFC 28/28A	50	0.44653	1.786

Notes:-

- 1) Weight & MI. are for Coupling with mid-range bore taper bushes.

JAW FLEX COUPLING**APPLICATIONS OF JAW-FLEX COUPLING**

JAW-FLEX couplings are suitable for general engineering applications requiring reliable power transmission, even under conditions of shaft misalignments, which are often unavoidable

Typical applications of JAW-FLEX couplings are:

Agitators, Band Resaw (Lumber), Barge Haul Puller, Beaters, Blowers, Bottling Machinery, Brew Kettles (distiling), Can Filling Mach., Car Dumpers Car Pullers, Card Machine, Chiller (Oil), Compressors, Conveyors, Cookers (Brewing, Distiling), Cranes & Hoist, Crushers, Dredges, Dynamometer, Evaporators, Fans, Feeders, Filter, Press-oil, Generators, Hammer Mills, Kilns, Laundry Washers, Lumber Machinery, Machine Tools, Metal Forming Machines, Mills, Mixers, Paper Mills, Printing Presses, Pug Mill, Pumps, Rubber Machinery Screens, Shredders, Steering Gears, Stokers, Suction Roll (Paper), Textile Machinery, Tumbling Barrels, Windlass, Woodworking Machinery.

HOW TO SELECT JAW-FLEX COUPLING

While selecting the coupling, first choose the type, which is based on application details like -

- a) Type of driver & driven equipment
- b) Type of load
- c) Misalignment, temperature limitation & shore hardness data
- d) Space limitations
- e) Linear & torsional vibrations
- f) Chemical or oil exposure

Then select the size of coupling for which information required is as stated below.

Requirements

Application: Driver -
Driven -

Application Rating : Power(kW) -

Speed (rpm) -

Shaft Diameter: Drive M/c -

Driven M/c -

Distance between shaft ends (DBSE) if reqd.:

Service Factor (S.F.) required/recommended:

Selection Procedure:

(a) Service Factor

Determine appropriate SERVICE FACTOR from table A on Page no.28 if not given as above with the application details.

(b) Design Power

Multiply running power of driven machinery by the service factor. This gives DESIGN POWER, which is used as a basis for coupling selection.

(c) Coupling Size

Refer to rating table for your required coupling size and read from the appropriate speed column until a power equal to or greater than the DESIGN POWER is found.

(d) Bore size

Refer respective coupling dimensional table to check that the required bores can be accommodated. If bore size of selected coupling can't accommodate the shaft size, then go for next coupling size where shaft size can be accommodated.

(e) While selecting coupling for high-speed application, check -

$$\text{Peripheral speed} = \frac{\pi DN}{60} \text{ m/s}$$

Where D = Max. diameter of coupling in meters
N = RPM

If peripheral speed ≤ 30 m/s use Cast Iron material
 > 30 ≤ 60 m/s use Cast Steel material

(f) Collect the following information while selecting,

1. Drum type Jaw-flex coupling

- * Drum diameter & width
- * Drum location i.e. distance of drum centre from any one end of coupling

2. Flange type Jaw-flex coupling

Get SAE size of flange. If not then collect -

- * Flange outside diameter & thickness
- * No. of holes, hole diameter and PCD
- * Spacing of holes on flange

3. Shear Pin type Jaw-flex coupling

- * Braking torque required.

JAW-FLEX COUPLING

TYPICAL SERVICE FACTORS

Determination of service factors depends on torque fluctuations, duration of operation, misalignment, type of application, rotating speed, no. of start-stops, no. of load/speed reversals, etc.

From experience, typical service factors recommended for different applications are:

SERVICE FACTOR TABLE A

DRIVEN MACHINE CLASS	TYPE OF DRIVING UNIT		
	Electric motor, steam turbine	Multi cylinder IC engine or steam engine or water turbine	Single cylinder IC engine or steam engine
<u>UNIFORM</u> Agitators, Brewing machinery, Centrifugal Blowers, Conveyors, Centrifugal fans and pumps, Generators, Sewage disposal equipments, Evaporators, Feeders, Textile machines, Wood working machines.	1.00	1.25	1.50
<u>MODERATE SHOCK</u> Clay working machinery, Crane Hoists, Laundry machinery, Machine Tools, Rotary mills, Paper mill machinery, Non-uniformly loaded centrifugal pumps, Rotary screens, Centrifugal compressors, Shredders, Printing presses, Oil industry, Mixers, Food industry, Beaters, Bucket elevators, Gear pumps, Wood working machinery, Textile machinery.	1.25	1.50	1.75
<u>HEAVY SHOCK</u> Reciprocating conveyors, Crushers, Shakers, Metal mills, Rubber machinery (Banbury mixers & mills), Reciprocating compressors, Welding sets, Freight & passenger elevators, Cooling tower fans, Hammer mills, Reciprocating pumps, Vibrating screens, Winches, Wire drawing machines.	1.75	2.00	2.25

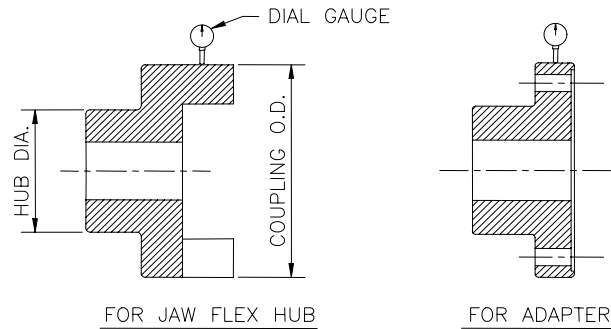
JAW-FLEX COUPLING**FINISH BORE & KEYWAY PROCEDURE**

1. RATHI couplings are supplied with pilot bore unless ordered for finish bore. They should be bored to reqd. finish bore sizes with reference of the outside diameter (OD) of coupling i.e. pilot bored coupling to finish bore size by truing the outside dia. of the coupling & not the hub dia,(Refer fig. A) on Page no. 30.
2. Clamp on the hub dia. on lathe and true the coupling OD Maintain concentricity of finish bore w.r.t. coupling OD within 0.1 mm.
3. Unless otherwise specified, std. tolerance of H7 for Finish bore and Js9 for keyway width will be supplied.
4. Use dial bore gauge or plug gauge for respective bore size. (If plug gauge is used then ensure that Go end of gauge will pass straight way through out bore length.)
5. Make chamfer of reqd. size on both the sides of bore.
6. Keyway to be done on slotting m/c. or broaching m/c. Mark the keyway centre line such that key should come between two jaws in Jaw-flex hubs and between two holes in coupling adapters,(Refer fig. B) on Page no. 30.
7. Keyway shift from marked keyway centre line should be within 0.1 mm.
8. A tapped hole is provided on the hub at keyway location to hold (lock) the key in shaft-hub with a set screw of suitable size. This tapping is generally provided at midpoint of the length through bore distance. If it is not possible to use set screw at midpoint, suitable distance nearer to midpoint of the length through bore is provided. (Refer fig. C), on Page no. 30.
9. Use appropriate set screw to ensure effective locking of the key.

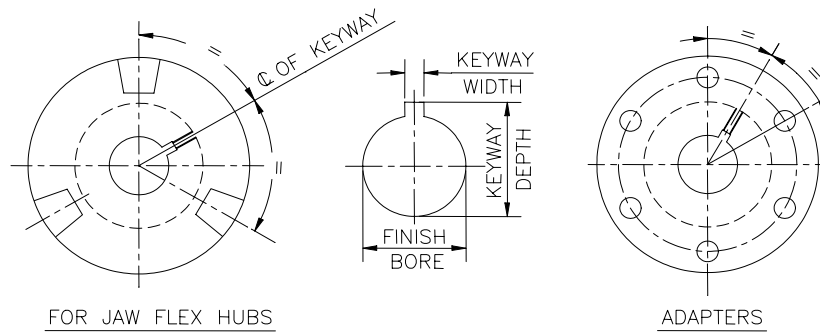
JAW-FLEX COUPLING

FINISH BORE & KEYWAY PROCEDURE

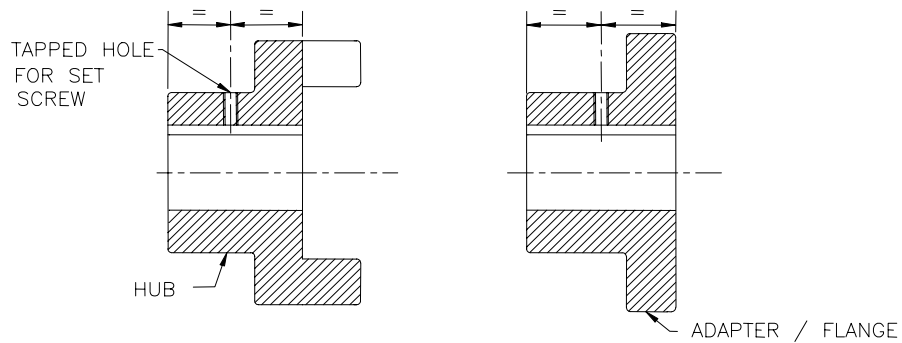
FINISH BORE TO BE DONE W.R.T. COUPLING O.D. (FIG.A)



LOCATION OF KEYWAY. (FIG. B)



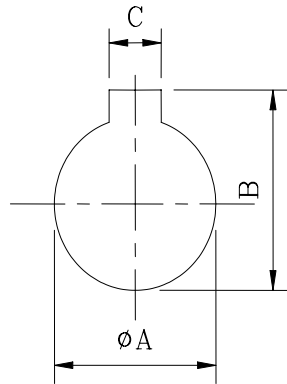
LOCATION OF SET SCREW HOLE (FIG. C)



JAW-FLEX COUPLING

STANDARD TOLERANCES FOR FINISH BORE & KEYWAY

Unless otherwise specified, couplings are supplied with finish bores & keyway (as per IS-2048 :1962) and tolerances in H7 & Js9 (as per IS-919 (Part 2):1993 standards).



ϕA - Bore
 B - Keyway Depth
 C - Keyway Width

Basic Size (mm.)		H7	Js9	For
Above	Upto & including	For Bores (mm.)	For Keyway Width (mm.)	Keyway Depth (mm.)
3	6	+ 0.012 0	± 0.015	+ 0.1 0
6	10	+ 0.015 0	± 0.018	
10	18	+ 0.018 0	± 0.021	
18	30	+ 0.021 0	± 0.026	+ 0.2 0
30	50	+ 0.025 0	± 0.031	
50	80	+ 0.030 0	± 0.037	
80	120	+ 0.035 0	± 0.043	
120	180	+ 0.040 0	± 0.050	+ 0.3 0
180	250	+ 0.046 0	± 0.057	
250	315	+ 0.052 0	± 0.065	+ 0.4 0
315	400	+ 0.057 0	± 0.070	
400	500	+ 0.063 0	± 0.077	+ 0.5 0

JAW-FLEX COUPLING

COMPETITORS FOR JAW-FLEX COUPLING

SR	COMPETITOR	MAX KW @ 100 rpm	MAX. BORE (mm.)
1	Flender N-Eupex Type 'A' (GERMANY)	41.4	110
2	Fenner's Essex (ENGLAND)	1.103	42
3	Flender N-Eupex Type 'B' (GERMANY)	41.4	110
4	Fenner's Type 'HRC' (ENGLAND)	33	115
5	Flender N-Eupex Type 'H' (GERMANY)	29.7	100
6	Elecon RM Series (India)	65	120
7	Unique Type 'FX'	1.8	60

EQUIVALENT RATHI JAW-FLEX TYPE-SW FOR FLENDER N-EUPEX TYPE 'A'

Flender N-eupex Type 'A'				RATHI Jaw Flex Type 'SW'		
Coupling Size	kW @ 100 rpm	Max. bore (mm)		Coupling Size	kW @ 100 rpm	Max. bore (mm)
		D1	D2			B
A 110	1.69	48	38	SW-190	2.01	60
A 125	2.54	55	45	SW-225	2.76	65
A 140	3.82	60	50	SW-276	5.60	75
A 160	5.95	65	58	SW-280	8.20	80
A 180	9.34	75	65	SW-295	13.4	95
A 200	14.2	85	75	SW-2955	22.4	105
A 225	21.2	90	85	SW-2955	22.4	105
A 250	29.7	100	95	SW-300	31.9	105
A 280	41.4	110	105	SW-350	45.0	115

Note: Above selection is done on the basis of Rating & Max. Bores.

JAW-FLEX COUPLING

EQUIVALENT RATHI JAW-FLEX TYPE 'L/SW' FOR FENNER'S ESSEX

Fenner's Essex			RATHI Jaw Flex Type L/SW		
Coupling Size	kW @ 100 rpm	Max. bore (mm)	Coupling Size	kW @ 100 rpm	Max. bore (mm)
035	0.005	10	050	0.03	16
050	0.037	14	070	0.05	20
070	0.06	19	075	0.1	22
075	0.125	24	095	0.22	28
090	0.201	24	095	0.22	28
095	0.27	28	099	0.37	30
100	0.581	35	110	0.93	42
110	1.103	42	150	1.49	48

Note : Above selection is done on the basis of Rating & Max. Bores.

EQUIVALENT RATHI JAW-FLEX TYPE 'L' FOR FLENDER N-EUPEX TYPE 'B'

Flender N-Eupex Type 'B'			RATHI Jaw Flex Type 'L'		
Coupling Size	kW @ 100 rpm	Max. bore (mm)	Coupling Size	kW @ 100 rpm	Max. bore (mm)
B 58	0.20	24	L-095	0.22	28
B 68	0.36	28	L-099	0.37	30
B 80	0.63	38	L-110	0.93	42
B 95	1.06	42	L-150	1.49	48
B 110	1.69	48	L-190	2.01	60
B 125	2.54	55	L-225	2.76	65
B 140	3.82	60	L-276	5.6	75
B 160	5.95	65	L-280	8.2	80
B 180	9.34	75	L-295	13.4	95
B 200	14.2	85	L-2955	22.4	105
B 225	21.2	90	L-2955	22.4	105
B 250	29.7	100	L-300	31.9	105
B 280	41.4	110	L-350	45.0	115

Note : Above selection is done on the basis of Rating & Max^m. Bores.

JAW-FLEX COUPLING

EQUIVALENT RATHI JAW-FLEX TYPE 'RRS' AND 'SWQ' FOR FLENDER N-EUPEX TYPE 'H'

Flender N-Eupex Type 'H'				RATHI Jaw Flex Type RRS & SWQ					
Coupling Size H	kW @ 100 rpm	Max. bore (mm)		Coupling Size		kW @ 100 rpm		Max. bore (mm)	
		Part 1	Part 5	RRS	SWQ	RRS	SWQ	RRS	SWQ
-	-	-	-	095	095	0.22	0.22	28	28
-	-	-	-	100	100	0.49	0.49	38	38
H-80	0.63	30	32	110	110	0.93	0.93	42	42
H-95	1.1	42	42	150	150	1.5	1.5	48	48
H-110	1.7	48	48	190	190	2.01	2.01	60	55
H-125	2.5	55	55	225	225	2.76	2.76	65	65
H-140	3.8	60	60	-	276	-	5.6	70	80
H-160	5.9	65	65	-	280	-	8.2	-	80
H-180	9.2	75	75	-	295	-	13.4	-	105
H-200	14	85	85	-	2955	-	22.4	-	105
H-225	21	90	90	-	2955	-	22.4	-	105
H-250	29	100	100	-	300	-	31.9	-	115

Note : Above selection is done on the basis of Rating & Max^m. Bores.

EQUIVALENT RATHI JAW-FLEX COUPLING FOR ELECON 'RM' SERIES

ELECON – RM SERIES			RATHI JAW FLEX		
Coupling Size	kW @ 100 rpm	Max. Bore (mm)	Coupling Size	kW @ 100 rpm	Max. Bore (mm)
RM-8	0.9	45	150	1.49	48
RM-14	1.5	45	150	1.49	48
RM-25	2.6	55	225	2.76	65
RM-40	4.1	60	276	5.60	75
RM-63	6.5	70	280	8.2	80
RM-100	11	75	295	13.4	95
RM-160	17	80	2955	22.4	105
RM-250	26	90	300	31.9	105
RM-400	41	105	350	45	115
RM-630	65	120	3667	104	130

Note : Above selection is done on the basis of Rating & Max^m. Bores.

JAW-FLEX COUPLING**EQUIVALENT RATHI JAW-FLEX COUPLING FOR UNIQUE 'FX' SERIES**

UNIQUE – FX SERIES			RATHI JAW FLEX		
Coupling Size	kW @ 100 rpm	Max. Bore (mm)	Coupling Size	kW @ 100 rpm	Max. Bore (mm)
FX-050	0.03	16	050	0.03	16
FX-070	0.04	20	070	0.05	20
FX-075	0.06	22	070	0.05	20
FX-095	0.22	28	099	0.37	30
FX-099	0.23	30	100	0.49	38
FX-100	0.33	38	100	0.49	38
FX-110	0.61	42	110	0.93	42
FX-150	0.97	48	150	1.49	48
FX-190	1.2	55	190	2.01	60
FX-225	1.8	60	225	2.76	65

Note : Above selection is done on the basis of Rating & Max^m. Bores.