

HELISEM® Mixers

FRH MODEL

DATA SHEET

The HELISEM® series offers 5 distinct models - VDA, VRP, VRH, VRG and FRH - with the FRH mounted with a HXP impeller, to support a wide range of open or closed tank applications up to 11m (36ft) diameter (1950 m³ - 515000 gallons) and viscosities up to 1000 mPas (cP) at 1.3 specific gravity.

The FRH model is a gearmotor driven mixer equipped with the HXP- HP2 impeller with 2 blades. This model was specifically designed for flocculation in water treatment. The HP2 impeller is designed to generate good flow with the least shear possible, making it ideal for flocculation.

The compact FRH model provides energy efficiency in a lightweight mixer with uncompromising results.

General Characteristics:

- Agitator with gear drive motor
- Lower shaft provided with a hydrofoil Impeller
- Rated power from 0.18 to 2.2 kW (1/4 to 3 HP)

Applications:

- Flocculation
- Separation
- Preparation of solution
- Keeping in suspension
- Dissolution
- Heat Transfer
- Homogenization
- Dilution

Materials:

- Wetted Parts – Stainless steel 316L
- Painting PU: RAL 1018 on the drive system

Features & Benefits:

- Easy to install and maintain, saving valuable manpower and resources
- Virtually no limitations from the process point of view
- All FRH mixers can rotate during emptying, filling and can be equipped with a frequency inverter

Mounting Options:

- Direct Mounting to Gearmotor
- Square baseplate
- Circular baseplate for ASME tank flange

Electrical Characteristics*:

- 50Hz 230V 1 Phase
- 60Hz 230V 1 Phase
- 50Hz 400V 3 Phase
- 60Hz 460V 3 Phase

*Other voltage options available

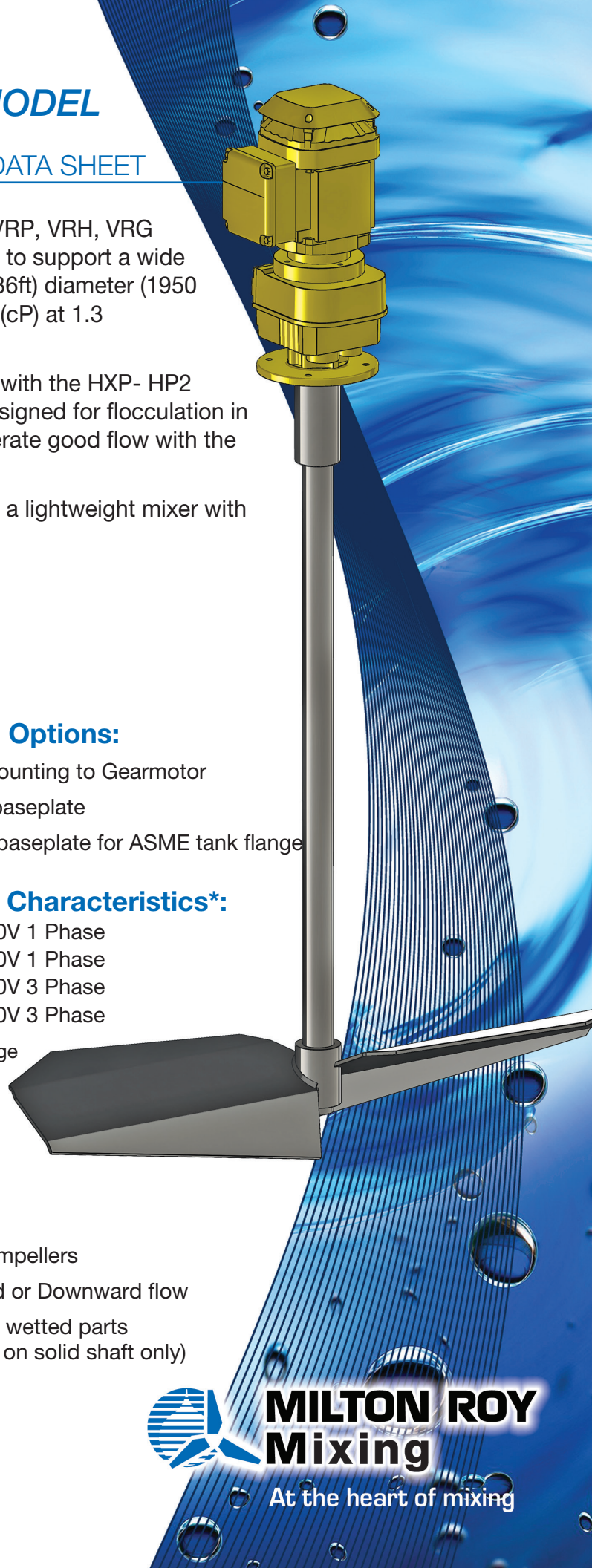
Options:

- 1 or 2 impellers
- Upward or Downward flow
- Coated wetted parts (Abcite on solid shaft only)



MILTON ROY
Mixing

At the heart of mixing

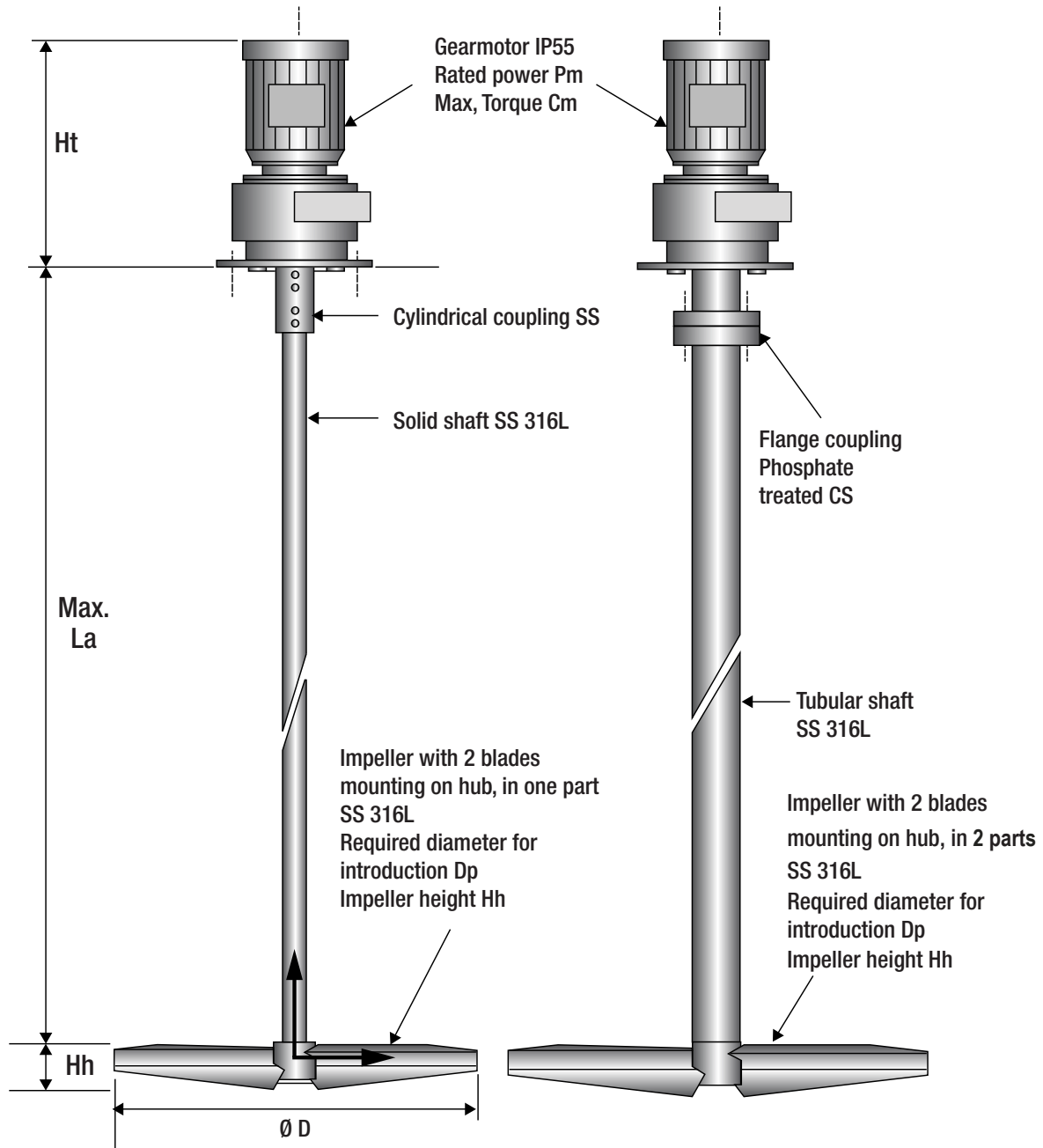


Single Impeller

Single Impeller Dim.	50Hz (Metric)										60Hz IEC (Metric)										60Hz IEC (Imperial)									
FRH	0655	0755	0905	1105	1305	1555	1855	2305	2805	3355	0656	0756	0906	1106	1306	1556	1856	2306	2806	3356	0656	0756	0906	1106	1306	1556	1856	2306	2806	3356
D mm (in)	650	750	900	1100	1300	1550	1850	2300	2800	3350	650	750	900	1100	1300	1550	1850	2300	2800	3350	25.6	29.5	35.4	43.3	51.2	61	72.8	90.6	110.2	131.9
N rpm	57	49	43	31	30	25	21	16	12	11	60	48	38	31	27	25	20	17	14	11	60	48	38	31	27	25	20	17	14	11
Pm kW (HP)	0.18	0.18	0.25	0.25	0.37	0.55	0.75	1.5	2.2	2.2	0.25	0.25	0.25	0.25	0.37	0.55	0.75	1.5	2.2	2.2	0.33	0.33	0.33	0.33	0.5	0.75	1	2	3	3
Weight kg (lbs)	19	21	40	50	72	126	161	285	480	686	20	21	40	50	72	132	161	285	466	686	44	46	88	110	159	291	355	628	1027	1512
Ht mm (in)	357	357	375	375	414	437	505	601	640	672	375	359	375	375	414	460	505	601	640	672	14.8	14.1	14.8	14.8	16.3	18.1	19.9	23.7	25.2	26.5
Hh mm (in)	101	116	140	171	202	240	287	357	434	519	101	116	140	171	202	240	287	357	434	519	4	4.6	5.5	6.7	8	9.4	11.3	14.1	17.1	20.4
Dp mm (in)	190	220	265	325	385	460	550	680	830	990	190	220	265	325	385	460	550	680	830	990	7.5	8.7	10.4	12.8	15.2	18.1	21.7	26.8	32.7	39
Flange	F130	F130	F130	F130	F165	F215	F215	F265	F300	F300	F130	F130	F130	F130	F165	F215	F215	F265	F300	F300	F130	F130	F130	F130	F165	F215	F215	F265	F300	F300
Sq. Plate (option)	P250	P250	P250	P250	P350	P350	P350	P400	P500	P500	P250	P250	P250	P250	P350	P350	P350	P400	P500	P500	P250	P250	P250	P250	P350	P350	P350	P400	P500	P500
Circ. Plate (option)	6"	6"	6"	6"	8"	10"	10"	12"	12"	12"	6"	6"	6"	6"	8"	10"	10"	12"	12"	12"	6"	6"	6"	6"	8"	10"	10"	12"	12"	12"
Max. La mm (in)	2000	2200	2350	2500	3000	3500	3800	5000	6000	6000	2000	2200	2350	2500	3000	3500	3800	5000	5500	6000	78.7	86.6	92.5	98.4	118.1	137.8	149.6	196.8	216.5	236.2
Min. La mm (in)	500	550	650	750	900	1050	1200	1500	1850	2150	550	550	650	750	900	1050	1200	1500	1850	2150	21.7	21.7	25.6	29.5	35.4	41.3	47.2	59.1	72.8	84.6

Solid Shaft: From FRH0655 to FRH0905
From FRH0656 to FRH0906

Hollow Shaft: From FRH1105 to FRH3355
From FRH1106 to FRH3356



Single Impeller

50 Hz Single Impeller

TYPE	Model	Shaft length (mm)
FRH0655	FRH0655S200	2000
FRH0655	FRH0655S50	500
FRH0755	FRH0755S220	2200
FRH0755	FRH0755S55	550
FRH0905	FRH0905S235	2350
FRH0905	FRH0905S65	650
FRH1105	FRH1105S250	2500
FRH1105	FRH1105S75	750
FRH1305	FRH1305S300	3000
FRH1305	FRH1305S90	900
FRH1555	FRH1555S350	3500
FRH1555	FRH1555S105	1050
FRH1855	FRH1855S380	3800
FRH1855	FRH1855S120	1200
FRH2305	FRH2305S500	5000
FRH2305	FRH2305S150	1500
FRH2805	FRH2805S600	6000
FRH2805	FRH2805S185	1850
FRH3355	FRH3355S600	6000
FRH3355	FRH3355S215	2150

60 Hz Single Impeller

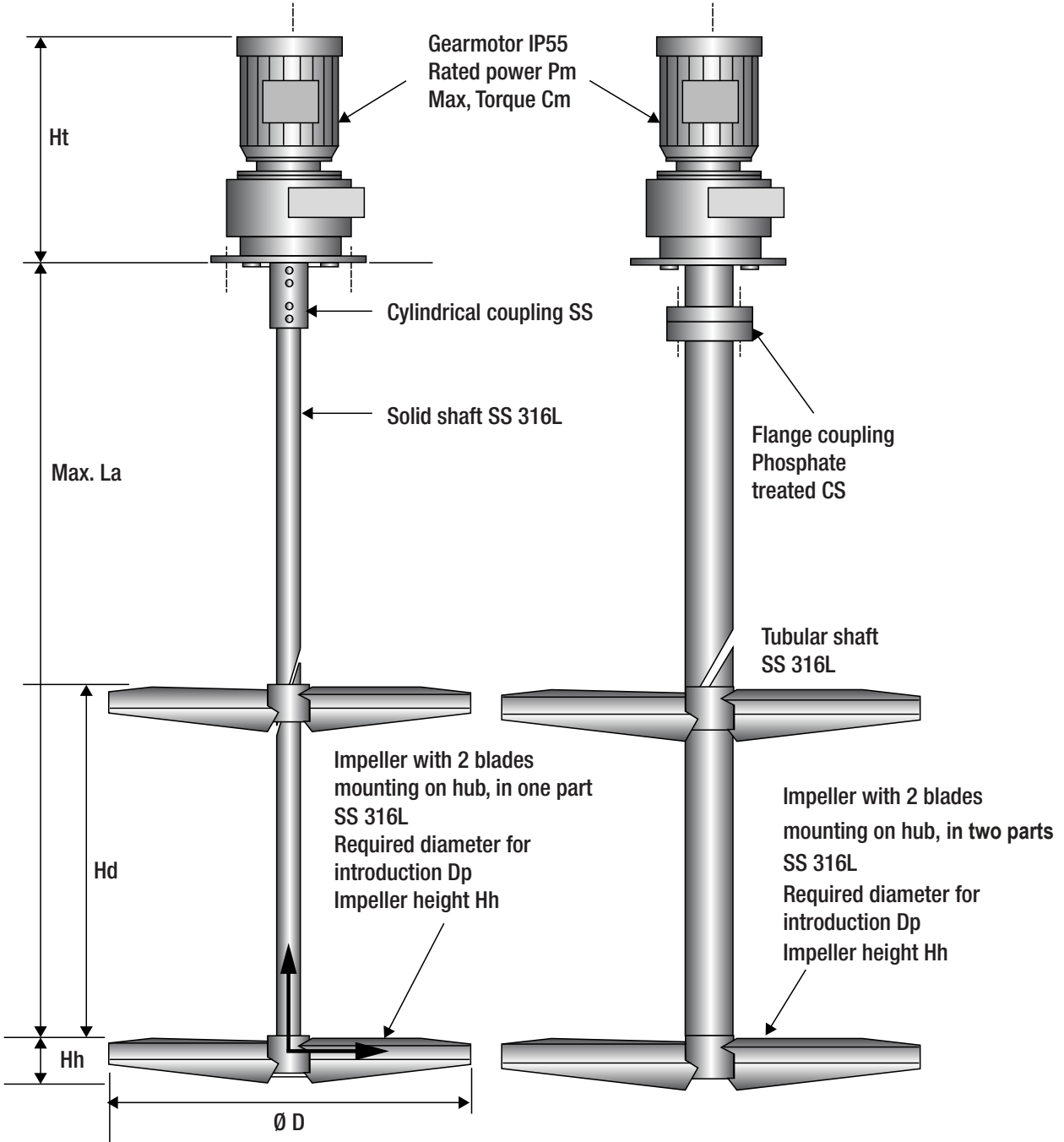
TYPE	Model	Shaft length (mm)	Shaft length (in)
FRH0656	FRH0656S200	2000	78.7
FRH0656	FRH0656S55	550	21.7
FRH0756	FRH0756S220	2200	86.6
FRH0756	FRH0756S55	550	21.7
FRH0906	FRH0906S235	2350	92.5
FRH0906	FRH0906S65	650	25.6
FRH1106	FRH1106S250	2500	98.4
FRH1106	FRH1106S75	750	29.5
FRH1306	FRH1306S300	3000	118.1
FRH1306	FRH1306S90	900	35.4
FRH1556	FRH1556S350	3500	137.8
FRH1556	FRH1556S105	1050	41.3
FRH1856	FRH1856S380	3800	149.6
FRH1856	FRH1856S120	1200	47.2
FRH2306	FRH2306S500	5000	196.8
FRH2306	FRH2306S150	1500	59.1
FRH2806	FRH2806S550	5500	216.5
FRH2806	FRH2806S185	1850	72.8
FRH3356	FRH3356S600	6000	236.2
FRH3356	FRH3356S215	2150	84.6

Dual Impeller

Dual Impeller Dim.		50Hz (Metric)										60Hz IEC (Metric)										60Hz IEC (Imperial)									
FR2H		0655	0755	0905	1105	1305	1555	1855	2305	2805	3355	0656	0756	0906	1106	1306	1556	1856	2306	2806	3356	0656	0756	0906	1106	1306	1556	1856	2306	2806	3356
D	mm (in)	650	750	900	1100	1300	1550	1850	2300	2800	3350	650	750	900	1100	1300	1550	1850	2300	2800	3350	25.6	29.5	35.4	43.3	51.2	61	72.8	90.6	110.2	131.9
N	rpm	50	44	36	30	25	22	18	14	11	9	48	45	36	27	25	19	17	14	12	9	48	45	36	27	25	19	17	14	12	9
Pm	kW (HP)	0.25	0.25	0.25	0.37	0.55	0.75	1.1	1.5	2.2	2.2	0.25	0.25	0.25	0.37	0.55	0.55	1.5	2.2	2.2	2.2	0.33	0.33	0.33	0.5	0.75	0.75	2	3	3	3
Weight	kg (lbs)	24	48	60	118	162	254	399	506	698	931	24	48	60	129	168	255	403	511	698	931	53	106	132	284	370	562	888	1127	1539	2053
Ht	mm (in)	359	359	375	414	449	518	567	640	640	686	359	359	375	414	460	475	601	640	640	686	14.1	14.1	14.8	16.3	18.1	18.7	23.7	25.2	25.2	27
Hh	mm (in)	101	116	140	171	202	240	287	357	434	519	101	116	140	171	202	240	287	357	434	519	4	4.6	5.5	6.7	8	9.4	11.3	14.1	17.1	20.4
Dp	mm (in)	190	220	265	325	385	460	550	680	830	990	190	220	265	325	385	460	550	680	830	990	7.5	8.7	10.4	12.8	15.2	18.1	21.7	26.8	32.7	39
Flange		F130	F130	F130	F165	F215	F265	F265	F300	F300	F300	F130	F130	F130	F165	F215	F265	F265	F300	F300	F300	F130	F130	F130	F165	F215	F265	F265	F300	F300	F300
Sq. Plate (option)		P250	P250	P250	P250	P350	P400	P400	P500	P500	P500	P250	P250	P250	P250	P350	P400	P400	P500	P500	P500	P250	P250	P250	P250	P350	P400	P400	P500	P500	P500
Circ. Plate(option)		6"	6"	6"	8"	10"	12"	12"	12"	12"	12"	6"	6"	6"	8"	10"	12"	12"	12"	12"	12"	6"	6"	6"	8"	10"	12"	12"	12"	12"	12"
Max. La	mm (in)	2500	3000	3000	4000	5200	6000	6000	6000	6000	6000	2500	3000	3000	4450	5200	6000	6000	6000	6000	6000	98.4	118.1	118.1	175.2	204.7	236.2	236.2	236.2	236.2	236.2
Min. La	mm (in)	1150	1300	1550	1900	2250	2650	3150	3900	4650	5500	1150	1300	1550	1900	2250	2650	3150	3900	4650	5500	45.3	51.2	61	74.8	88.6	104.3	124	153.5	183.1	216.5
Hd	mm (in)	650	750	900	1100	1300	1550	1850	2300	2800	3350	650	750	900	1100	1300	1550	1850	2300	2800	3350	25.6	29.5	35.4	43.3	51.2	61	72.8	90.6	110.2	131.9

Solid Shaft: From FR2H0655 to FR2H0905
From FR2H0656 to FR2H0906

Hollow Shaft: From FR2H1105 to FR2H3355
From FR2H1106 to FR2H3356



Dual Impeller

50 Hz Dual Impeller

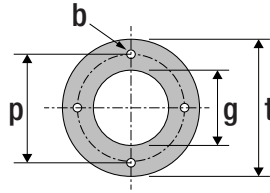
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FR2H0655	FR2H0655S250	2500
FR2H0655	FR2H0655S115	1150
FR2H0755	FR2H0755S300	3000
FR2H0755	FR2H0755S130	1300
FR2H0905	FR2H0905S300	3000
FR2H0905	FR2H0905S155	1550
FR2H1105	FR2H1105S400	4000
FR2H1105	FR2H1105S190	1900
FR2H1305	FR2H1305S520	5200
FR2H1305	FR2H1305S225	2250
FR2H1555	FR2H1555S600	6000
FR2H1555	FR2H1555S265	2650
FR2H1855	FR2H1855S600	6000
FR2H1855	FR2H1855S315	3150
FR2H2305	FR2H2305S600	6000
FR2H2305	FR2H2305S390	3900
FR2H2805	FR2H2805S600	6000
FR2H2805	FR2H2805S465	4650
FR2H3355	FR2H3355S600	6000
FR2H3355	FR2H3355S550	5500

60 Hz Dual Impeller

TYPE	Model	Shaft length (mm)	Shaft length (in)
FR2H0656	FR2H0656S250	2500	98.4
FR2H0656	FR2H0656S115	1150	45.3
FR2H0756	FR2H0756S300	3000	118.1
FR2H0756	FR2H0756S130	1300	51.2
FR2H0906	FR2H0906S300	3000	118.1
FR2H0906	FR2H0906S155	1550	61
FR2H1106	FR2H1106S445	4450	175.2
FR2H1106	FR2H1106S190	1900	74.8
FR2H1306	FR2H1306S520	5200	204.7
FR2H1306	FR2H1306S225	2250	88.6
FR2H1556	FR2H1556S600	6000	236.2
FR2H1556	FR2H1556S265	2650	104.3
FR2H1856	FR2H1856S600	6000	236.2
FR2H1856	FR2H1856S315	3150	124
FR2H2306	FR2H2306S600	6000	236.2
FR2H2306	FR2H2306S390	3900	153.5
FR2H2806	FR2H2806S600	6000	236.2
FR2H2806	FR2H2806S465	4650	183.1
FR2H3356	FR2H3356S600	6000	236.2
FR2H3356	FR2H3356S550	5500	216.5

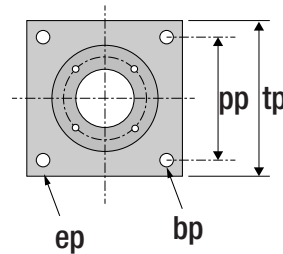
Mounting:

Gear Flange



Type	Metric (mm)							Imperial (in)						
	F130	F165	F215	F265	F300	F400	F500	F130	F165	F215	F265	F300	F400	F500
b	9	11	13.5	13.5	17.5	17.5	17.5	0.35	0.43	0.53	0.53	0.69	0.69	0.69
t	160	200	250	300	350	450	550	6.3	7.87	9.84	11.81	13.78	17.72	21.65
p	130	165	215	265	300	400	500	5.12	6.5	8.46	10.43	11.81	15.75	19.69
g	110	130	180	230	250	350	450	4.33	5.12	7.09	9.06	9.84	13.78	17.72
e	10	12	15	16	20	22	25	0.39	0.47	0.59	0.63	0.71	0.87	0.98

Square Support Plate (optional)



Type	Metric (mm)						Imperial (in)					
	P250	P350	P400	P500	P600	P700	P250	P350	P400	P500	P600	P700
bp	14	14	16	18	18	22	0.55	0.55	0.63	0.71	0.71	0.87
pp	190	280	320	420	500	600	7.48	11.02	12.6	16.54	19.69	23.62
tp	250	350	400	500	600	700	9.84	13.78	15.75	19.68	23.62	27.56
ep	15	15	15	20	20	25	0.59	0.59	0.59	0.79	0.79	0.98

ASME B16.5 150# FF Baseplate (optional)

Type	Metric (mm)						Imperial (in)					
	6"	8"	10"	12"	18"	22"	6"	8"	10"	12"	18"	22"
Outside Diameter	279	343	406	483	635	749	11	13.5	16	19	25	29.5
Diameter of Circle of Holes	241	299	362	432	578	692	9.5	11.75	14.25	17	22.75	27.25
Bolt Hole Diameter	22	22	25	25	32	35	0.88	0.88	1	1	1.25	1.38
Number of Holes	8	8	12	12	16	20	8	8	12	12	16	20

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Literature# MRMVRG 10/22