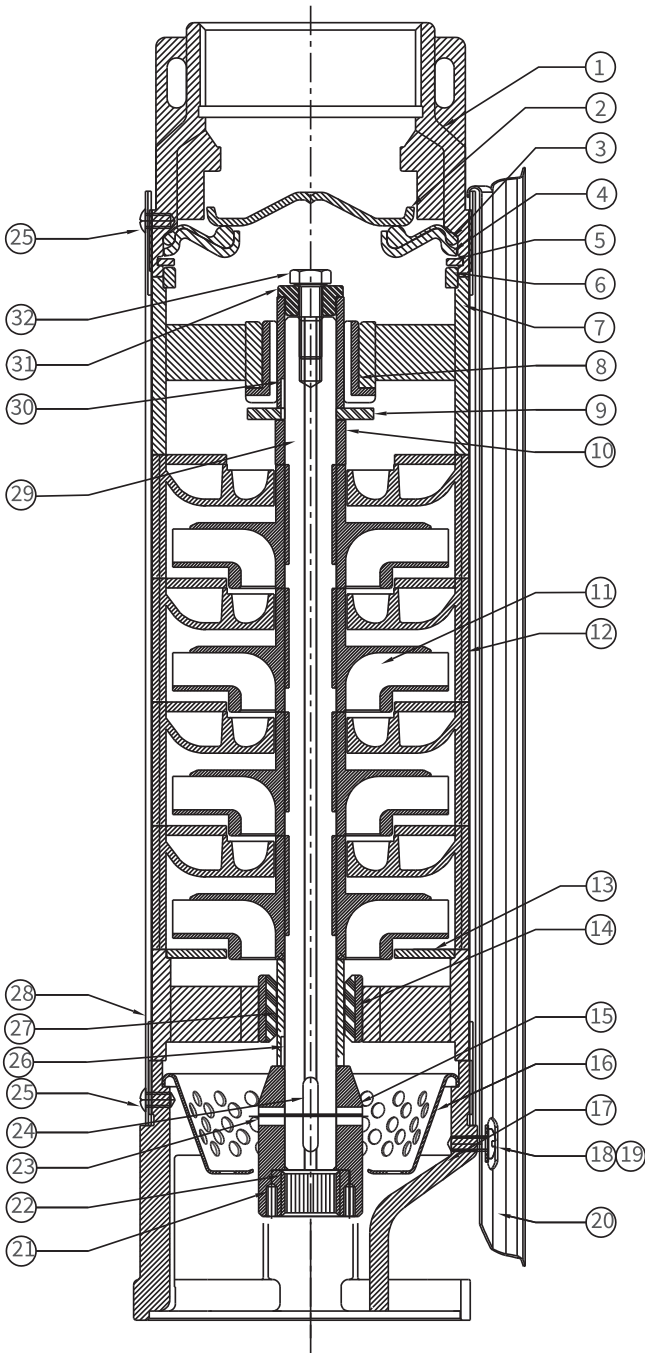


Submersible Pumps

4RF 450, 4RF 430, 4RF 402, 4RF 410, 4RF 400
SERIES PUMP DESIGN

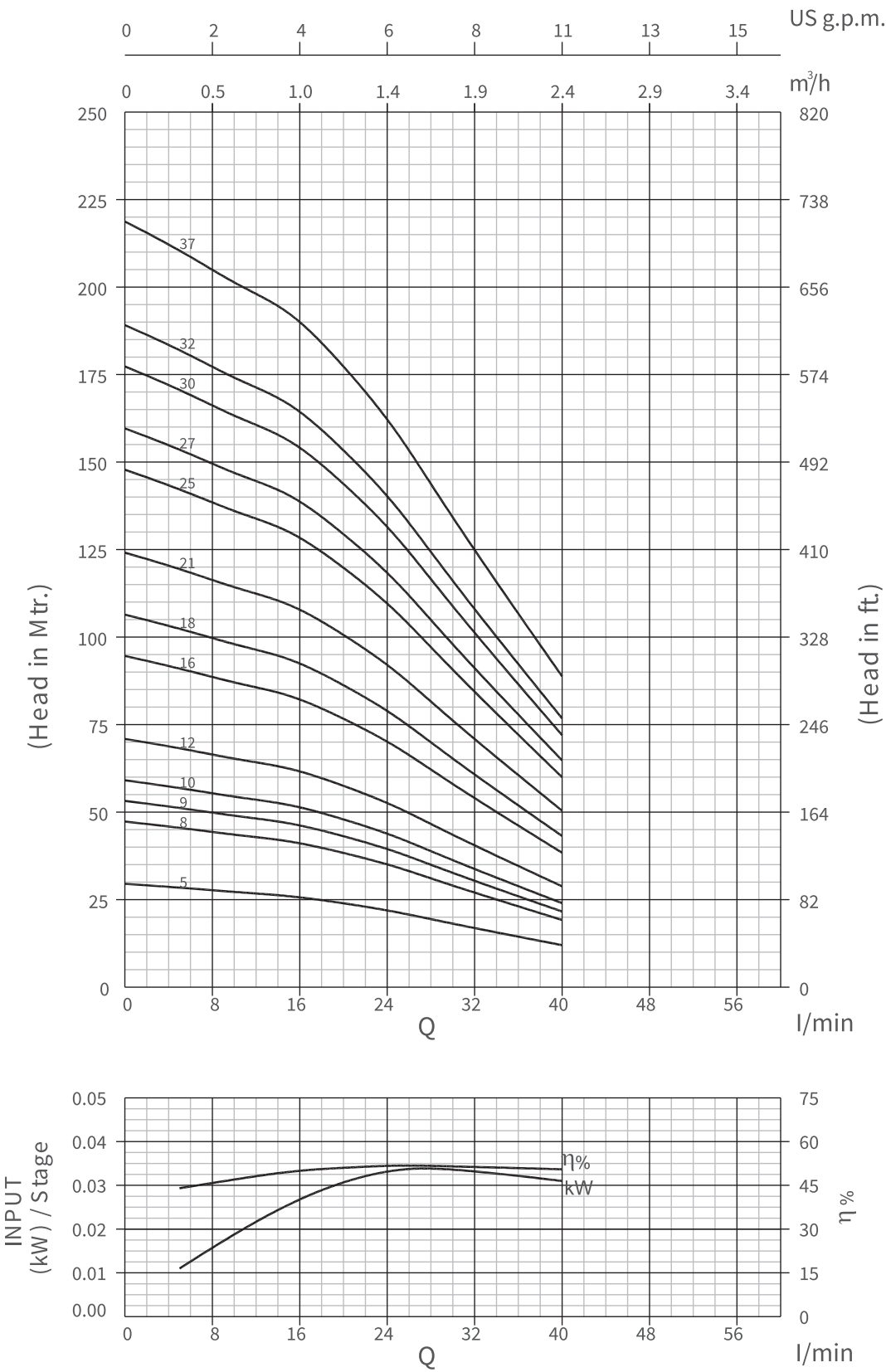
Material Specification

NO.	PART'S NAME	MATERIAL
1	DELIVERY CASING	S.S. 304
2	NRV CONE	S.S. 304
3	NRV RING	NITRILE RUBBER
4	NRV PLATE	S.S. 304
5	CIR CLIP	S.S. 304 (SPRING STEEL)
6	RING	P.C (10% G.F)
7	DOL	P.P.O (20% G.F)
8	C.T. BEARING BUSH	L.T.B-4
9	THRUST PLATE	S.S. 202
10	DISTANCE SLEEVE	NYLON
11	IMPELLER	P.P.O (20% G.F)
12	STAGE CASING	P.P.O (20% G.F)
13	MIDDLE BEARING	P.P.O (20% G.F)
14	BEARING BUSH	NBR + M.S
15	COUPLING	S.S. 304
16	STRAINER	S.S. 304
17	SUCTION	S.S. 304
18	SCREW	S.S. 304
19	WASHER	S.S. 304
20	CABLE GUARD	S.S. 304
21	GURB SCREW	S.S. 304
22	NEEMA SLEEVE	S.S. 304
23	CYLINDRICAL PIN	S.S. 304
24	KEY	S.S. 304
25	SCREW	S.S. 304
26	KEY	S.S. 304
27	SLEEVE	S.S. 410
28	PUMP PIPE	S.S. 304
29	PUMP SHAFT	S.S. 304
30	SLEEVE	S.S. 410
31	TOP COLLAR	S.S. 410
32	HEX BOLT	S.S. 304



4RF 450, 50Hz
ISO 9906 Annexure A

Performance Curves

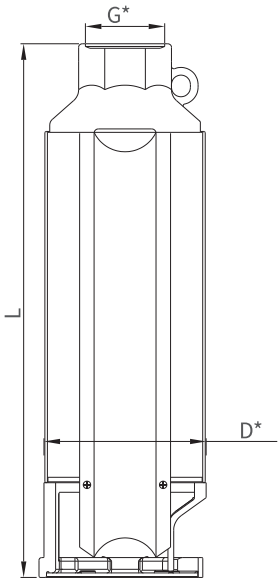


4RF 450, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m ³ /h	Discharge							
Single Phase	Three Phase		kW	HP		0	5	10	15	20	25	30	40
						0	0.3	0.6	0.9	1.2	1.5	1.8	2.4
4RF 450-05	4RF 450-05	5	0.25	0.33	HEAD IN Mtrs.	30	28	27	26	24	22	18	12
4RF 450-08	4RF 450-08	8	0.37	0.50		47	46	43	42	38	34	29	19
4RF 450-09	4RF 450-09	9	0.37	0.50		53	51	49	47	43	39	32	22
4RF 450-10	4RF 450-10	10	0.55	0.75		59	57	54	52	48	43	36	24
4RF 450-12	4RF 450-12	12	0.55	0.75		71	68	65	63	58	52	43	29
4RF 450-16	4RF 450-16	16	0.75	1.00		95	91	87	84	77	69	58	38
4RF 450-18	4RF 450-18	18	0.75	1.00		106	103	98	94	86	77	65	43
4RF 450-21	4RF 450-21	21	0.75	1.00		124	120	114	110	101	90	76	50
4RF 450-25	4RF 450-25	25	1.10	1.50		148	142	136	131	120	108	90	60
4RF 450-27	4RF 450-27	27	1.10	1.50		160	154	146	142	130	116	97	65
4RF 450-30	4RF 450-30	30	1.50	2.00		177	171	163	158	144	129	108	72
4RF 450-32	4RF 450-32	32	1.50	2.00		189	182	173	168	154	138	115	77
4RF 450-37	4RF 450-37	37	1.50	2.00		219	211	201	194	178	159	133	89

Dimensions & Weights

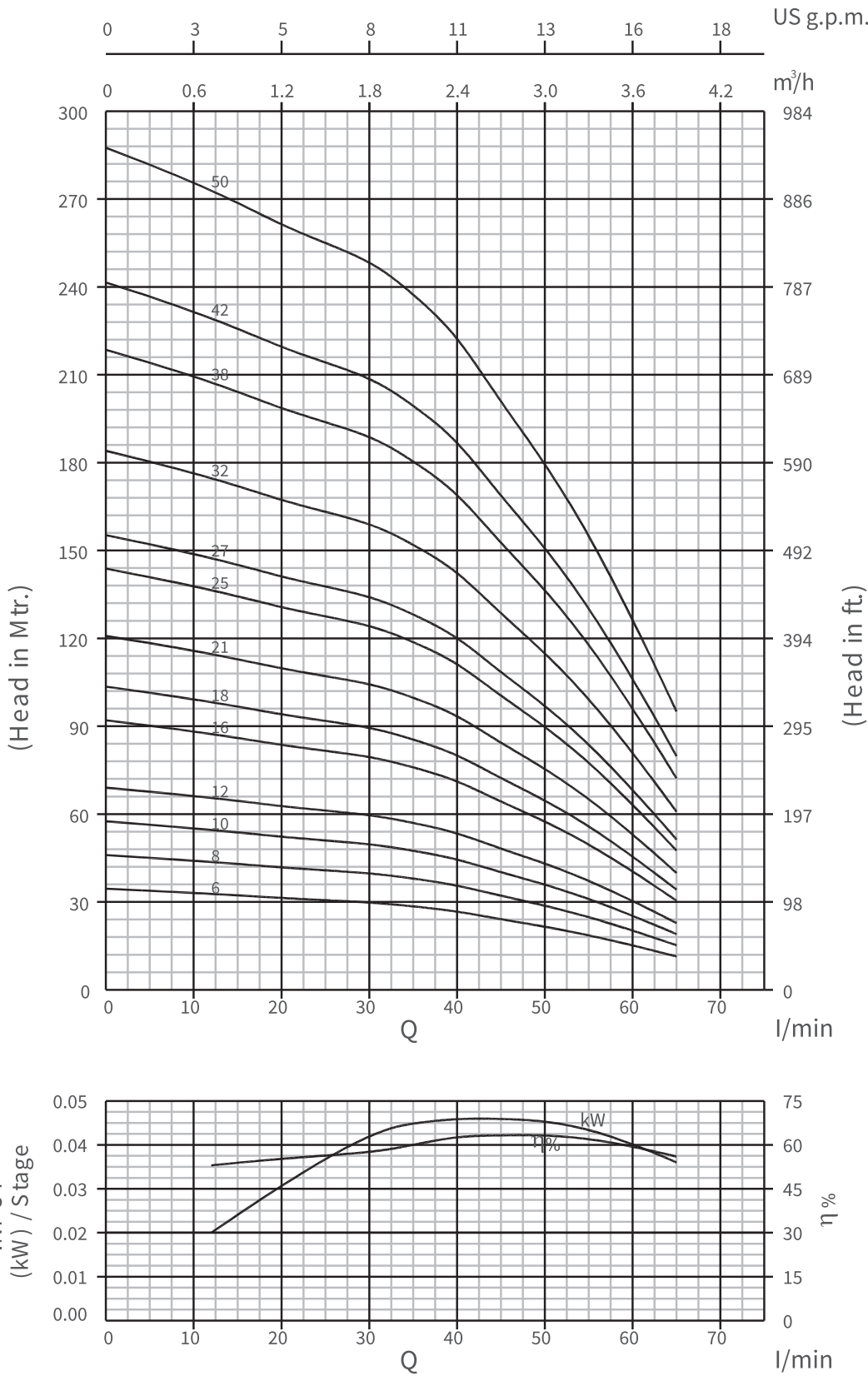


Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 450-05	100	341	3.5	5.5
4RF 450-08	100	415	4.0	6.0
4RF 450-09	100	440	4.0	6.0
4RF 450-10	100	465	4.5	6.5
4RF 450-12	100	514	4.5	6.5
4RF 450-16	100	614	5.0	7.0
4RF 450-18	100	663	5.5	7.5
4RF 450-21	100	738	6.0	8.0
4RF 450-25	100	867	7.5	9.5
4RF 450-27	100	916	7.5	9.5
4RF 450-30	100	991	8.0	10.0
4RF 450-32	100	1070	8.5	10.5
4RF 450-37	100	1194	9.5	11.5

*G:Available Outlet Size 1.25",1.50" & 2.0"
*D:With Cable Guard

4RF 430, 50Hz
ISO 9906 Annexure A

Performance Curves

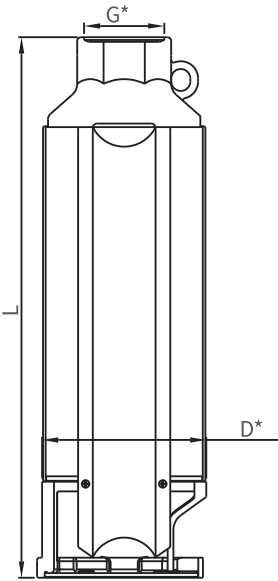


4RF 430, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name			Rating			Discharge									
Single Phase	Three Phase	Stage	kW	HP	l/min m³/h	0	12	20	30	35	40	45	55	65	
						0	0.72	1.2	1.8	2.1	2.4	2.7	3.3	3.9	
4RF 430-06	4RF 430-06	6	0.37	0.50	HEAD IN Mtrs.	34	33	31	30	28	27	24	19	11	
4RF 430-08	4RF 430-08	8	0.55	0.75		46	44	42	40	38	36	32	26	15	
4RF 430-10	4RF 430-10	10	0.55	0.75		58	55	52	50	48	45	40	32	19	
4RF 430-12	4RF 430-12	12	0.75	1.00		69	66	62	60	57	54	48	38	23	
4RF 430-16	4RF 430-16	16	1.10	1.50		92	88	83	80	76	72	64	51	30	
4RF 430-18	4RF 430-18	18	1.10	1.50		104	99	94	90	86	81	72	58	34	
4RF 430-21	4RF 430-21	21	1.10	1.50		121	115	109	105	100	94	84	67	40	
4RF 430-25	4RF 430-25	25	1.50	2.00		144	137	130	125	119	112	100	80	48	
4RF 430-27	4RF 430-27	27	1.50	2.00		155	148	140	135	128	121	108	86	51	
4RF 430-32	4RF 430-32	32	1.50	2.00		184	175	166	160	152	143	128	102	61	
4RF 430-38	4RF 430-38	38	2.20	3.00		218	208	198	190	180	170	152	122	72	
	4RF 430-42	42	3.00	4.00		242	230	218	210	200	188	168	134	80	
	4RF 430-50	50	3.00	4.00		288	274	260	250	238	224	200	160	95	

Dimensions & Weights

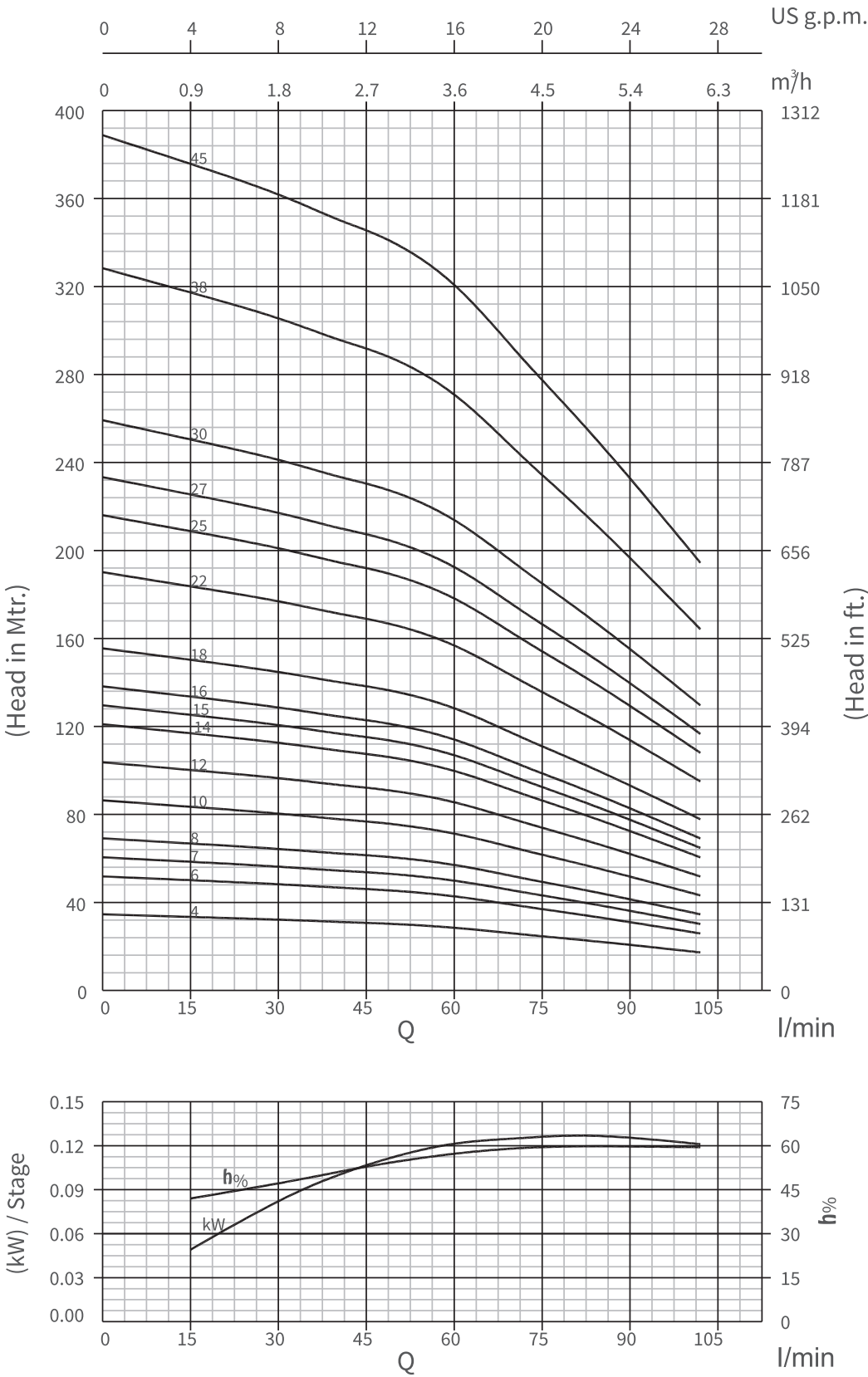


Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 430-06	100	350	4.0	6.0
4RF 430-08	100	394	4.0	6.0
4RF 430-10	100	439	4.5	6.5
4RF 430-12	100	483	4.5	6.5
4RF 430-16	100	572	5.5	7.5
4RF 430-18	100	616	5.5	7.5
4RF 430-21	100	683	6.0	8.0
4RF 430-25	100	802	7.0	9.0
4RF 430-27	100	846	7.5	9.5
4RF 430-32	100	987	8.0	10.0
4RF 430-38	100	1120	8.5	10.5
4RF 430-42	100	1239	9.0	11.0
4RF 430-50	100	1417	10.5	12.5

*G:Available Outlet Size 1.25", 1.50" & 2.0"
*D:With Cable Guard

4RF 402, 50Hz
ISO 9906 Annexure A

Performance Curves

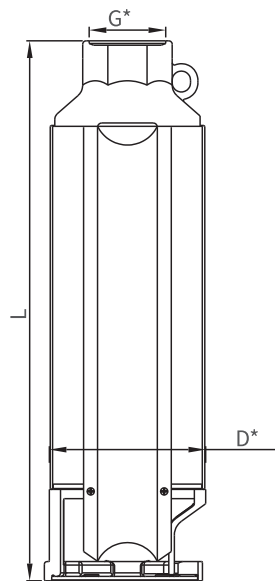


4RF 402, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m³/h	Discharge								
Single Phase	Three Phase		kW	HP		0	12	25	33	40	50	60	70	85
						0	0.72	1.5	1.98	2.4	3.0	3.6	4.2	5.1
4RF 402-04	4RF 402-04	4	0.37	0.50	HEAD IN Mtrs.	24	23	22.5	22	21	20	18	15	12
4RF 402-06	4RF 402-06	6	0.55	0.75		36	35	34	32.5	32	30	26	23	18
4RF 402-07	4RF 402-07	7	0.55	0.75		42	41	39	38	37	35	31	27	21
4RF 402-08	4RF 402-08	8	0.75	1.00		48	46	45	43	42	40	35	30	24
4RF 402-10	4RF 402-10	10	0.75	1.00		60	58	56	54	53	50	44	38	30
4RF 402-12	4RF 402-12	12	1.10	1.50		72	70	67	65	64	60	53	46	36
4RF 402-14	4RF 402-14	14	1.10	1.50		84	81	78	76	74	70	62	53	42
4RF 402-15	4RF 402-15	15	1.10	1.50		90	87	84	81	80	75	66	57	45
4RF 402-16	4RF 402-16	16	1.50	2.00		96	93	90	86	85	80	70	61	48
4RF 402-18	4RF 402-18	18	1.50	2.00		108	104	101	97	95	90	79	68	54
4RF 402-20	4RF 402-20	20	1.50	2.00		120	116	112	108	106	100	88	76	60
4RF 402-22	4RF 402-22	22	2.20	3.00		132	128	123	119	117	110	97	84	66
4RF 402-25	4RF 402-25	25	2.20	3.00		150	145	140	135	132	125	110	95	75
4RF 402-27	4RF 402-27	27	2.20	3.00		162	157	151	146	143	135	119	103	81
	4RF 402-30	30	3.00	4.00		180	174	168	162	159	150	132	114	90
	4RF 402-38	38	3.00	4.00		228	220	213	205	201	190	167	144	114
	4RF 402-45	45	4.00	5.50		270	261	252	243	239	225	198	171	135

Dimensions & Weights

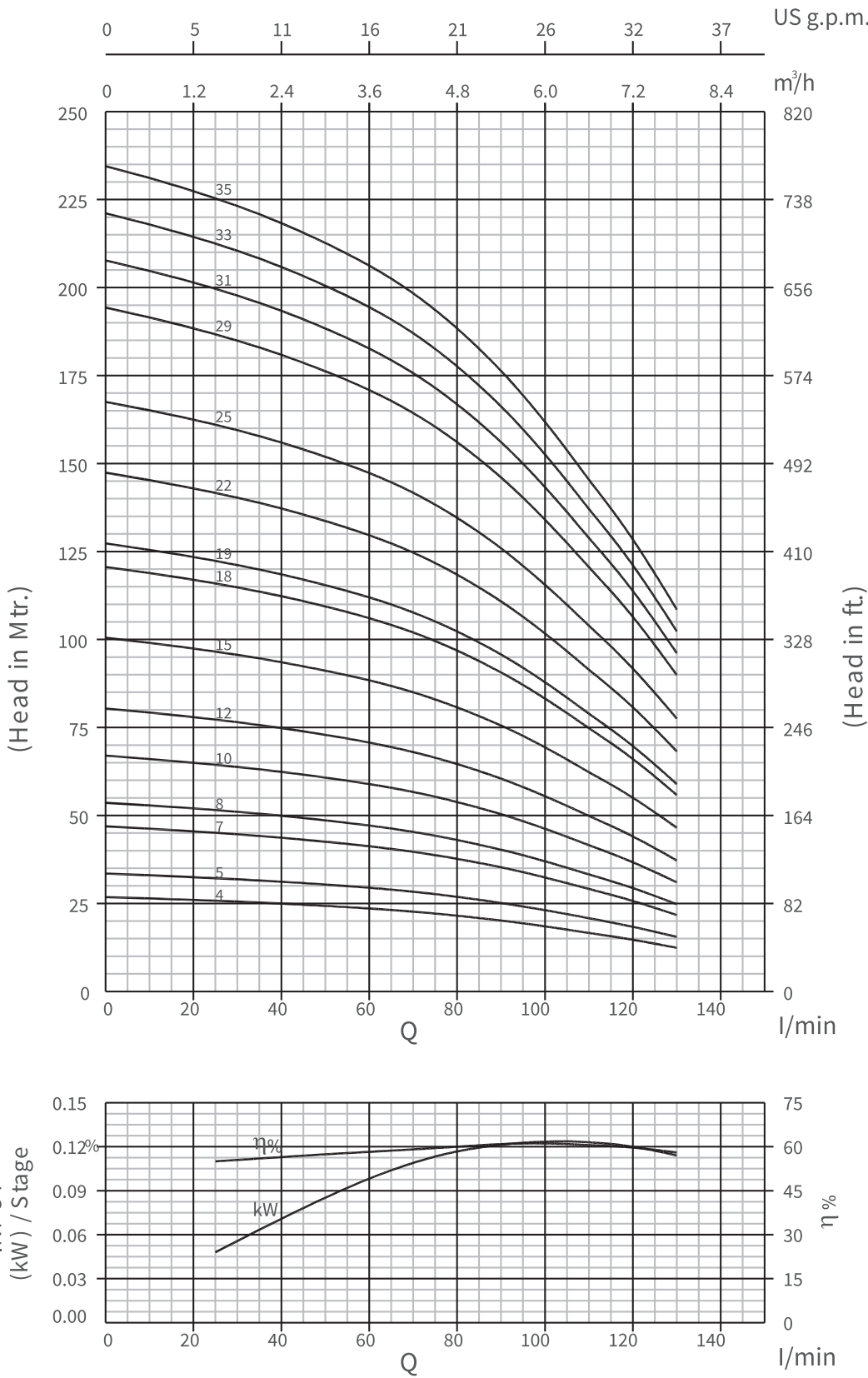


Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 402-04	100	316	3.5	5.5
4RF 402-06	100	366	4.0	6.0
4RF 402-07	100	390	4.0	6.0
4RF 402-08	100	415	4.0	6.0
4RF 402-10	100	465	4.5	6.5
4RF 402-12	100	514	4.5	6.5
4RF 402-14	100	564	5.0	7.0
4RF 402-15	100	589	5.5	7.5
4RF 402-16	100	614	5.5	7.5
4RF 402-18	100	663	6.0	8.0
4RF 402-20	100	713	6.5	8.6
4RF 402-22	100	792	7.0	9.0
4RF 402-25	100	867	7.5	9.5
4RF 402-27	100	916	8.0	10.0
4RF 402-30	100	991	8.0	10.0
4RF 402-38	100	1219	9.0	11.0
4RF 402-45	100	1423	10.0	12.0

*G:Available Outlet Size 1.25",1.50" & 2.0"
*D:With Cable Guard

4RF 410, 50Hz
ISO 9906 Annexure A

Performance Curves

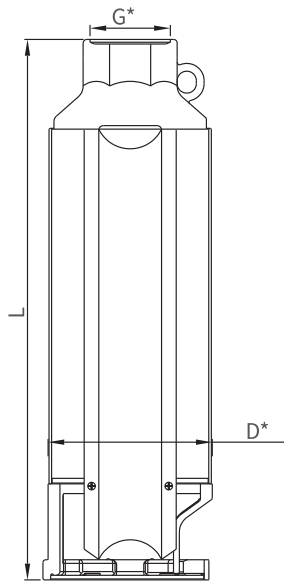


4RF 410, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m³/h	Discharge									
Single Phase	Three Phase		kW	HP		0	25	50	70	85	95	105	110	120	130
						0	1.5	3.0	4.2	5.1	5.7	6.3	6.6	7.2	7.8
4RF 410-04	4RF 410-04	4	0.55	0.75	HEAD IN Mtrs.	27	26	24	23	21	19	18	17	15	12
4RF 410-05	4RF 410-05	5	0.75	1.00		34	32	30	28	26	24	22	21	18	16
4RF 410-07	4RF 410-07	7	1.10	1.50		47	45	43	40	37	34	31	29	26	22
4RF 410-08	4RF 410-08	8	1.50	2.00		54	52	49	46	42	39	35	33	30	25
4RF 410-10	4RF 410-10	10	1.50	2.00		67	65	61	57	52	48	44	42	37	31
4RF 410-12	4RF 410-12	12	2.20	3.00		80	78	73	68	63	58	53	50	44	37
4RF 410-15	4RF 410-15	15	2.20	3.00		100	97	92	86	78	73	66	62	56	46
	4RF 410-18	18	3.00	4.00		121	116	110	103	94	87	79	75	67	56
	4RF 410-19	19	4.00	5.50		127	123	116	108	99	92	84	79	70	59
	4RF 410-22	22	4.00	5.50		147	142	134	125	115	107	97	91	81	68
	4RF 410-25	25	4.00	5.50		168	162	152	142	131	121	110	104	92	78
	4RF 410-29	29	4.50	6.00		194	188	177	165	152	141	128	120	107	90
	4RF 410-31	31	4.50	6.00		208	201	189	177	162	150	136	129	115	96
	4RF 410-33	33	5.50	7.50		221	214	201	188	173	160	145	137	122	102
	4RF 410-35	35	5.50	7.50		234	226	214	200	183	170	154	145	130	108

Dimensions & Weights

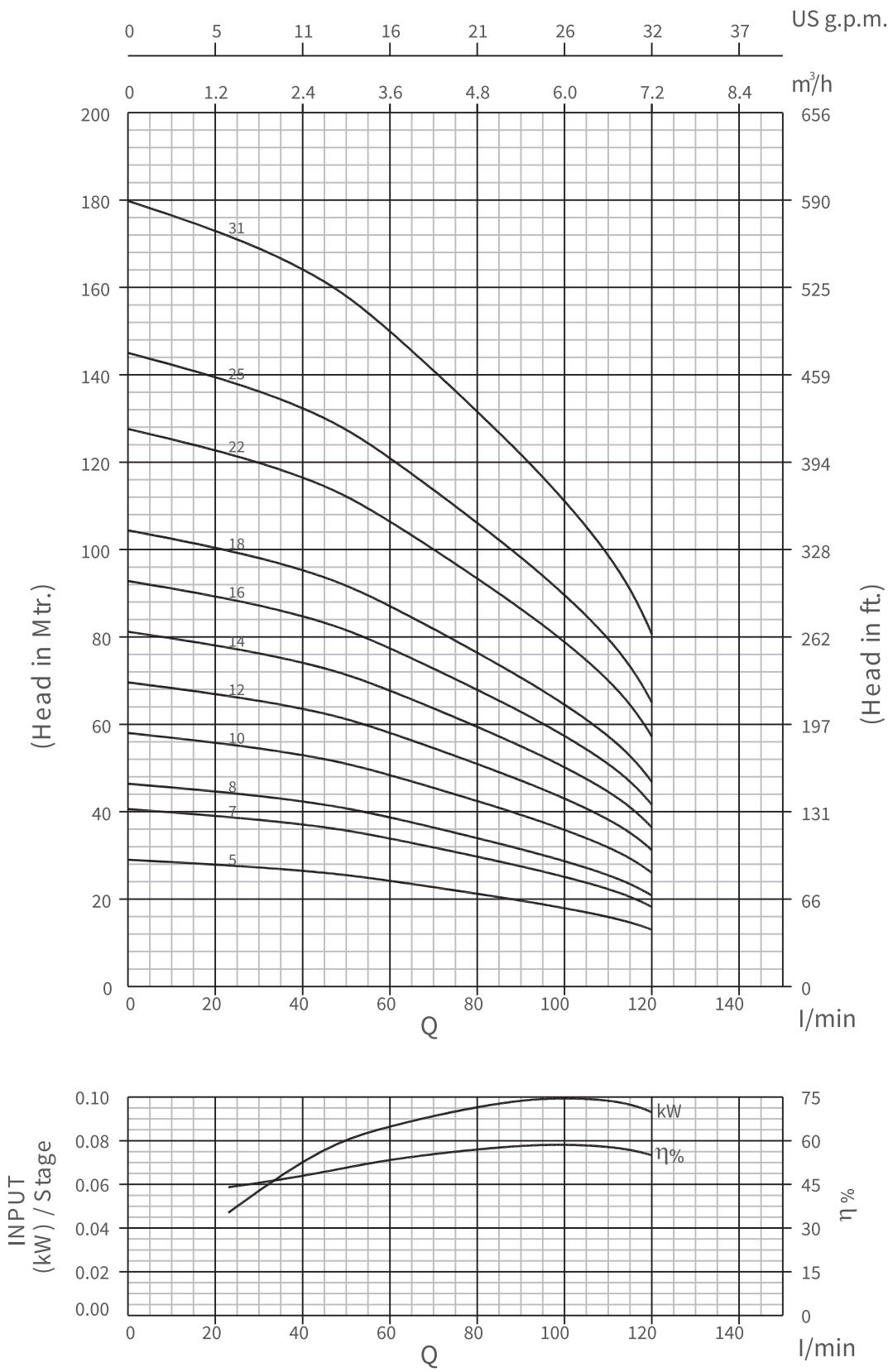


Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 410-04	100	350	3.5	5.5
4RF 410-05	100	383	4.0	6.0
4RF 410-07	100	450	4.5	6.5
4RF 410-08	100	483	4.5	6.5
4RF 410-10	100	550	5.0	7.0
4RF 410-12	100	616	6.0	8.0
4RF 410-15	100	716	6.5	8.5
4RF 410-18	100	816	6.5	8.5
4RF 410-19	100	879	7.0	9.0
4RF 410-22	100	979	8.0	10.0
4RF 410-25	100	1079	8.0	10.0
4RF 410-29	100	1212	9.0	11.0
4RF 410-31	100	1309	9.5	11.5
4RF 410-33	100	1376	10.0	12.0
4RF 410-35	100	1442	10.5	12.5

*G:Available Outlet Size 1.25",1.50" & 2.0"
*D:With Cable Guard

4RF 400, 50Hz
ISO 9906 Annexure A

Performance Curves



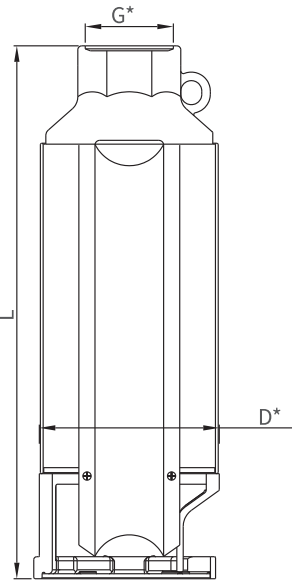
4RF 400, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m ³ /h	Discharge							
Single Phase	Three Phase		kW	HP		0	23	42	55	85	100	115	120
						0	1.38	2.52	3.3	5.1	6.0	6.9	7.2

4RF 400-05	4RF 400-05	5	0.55	0.75	HEAD IN Mtrs.	29	28	26	25	20	18	15	13
4RF 400-07	4RF 400-07	7	0.75	1.00		41	39	37	35	29	25	21	18
4RF 400-08	4RF 400-08	8	1.10	1.50		46	44	42	40	33	29	24	21
4RF 400-10	4RF 400-10	10	1.10	1.50		58	56	53	50	41	36	30	26
4RF 400-12	4RF 400-12	12	1.50	2.00		70	67	63	60	49	43	36	31
4RF 400-14	4RF 400-14	14	2.20	3.00		81	78	74	70	57	50	42	36
4RF 400-16	4RF 400-16	16	2.20	3.00		93	89	84	80	66	58	48	42
4RF 400-18	4RF 400-18	18	2.20	3.00		104	100	95	90	74	65	54	47
4RF 400-22	4RF 400-22	22	2.20	3.00		128	122	116	110	90	79	66	57
	4RF 400-25	25	3.00	4.00		145	139	132	125	102	90	75	65
	4RF 400-31	31	4.00	5.50		180	172	164	155	127	112	93	81

Dimensions & Weights



Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 400-05	100	383	3.5	5.5
4RF 400-07	100	450	4.0	6.0
4RF 400-08	100	483	4.5	6.5
4RF 400-10	100	550	5.0	7.0
4RF 400-12	100	616	5.0	7.0
4RF 400-14	100	683	5.5	7.5
4RF 400-16	100	730	6.0	8.0
4RF 400-18	100	816	6.5	8.5
4RF 400-22	100	979	7.0	9.0
4RF 400-25	100	1079	8.0	10.0
4RF 400-31	100	1309	12.0	14.0

*G:Available Outlet Size 1.50" & 2.0"

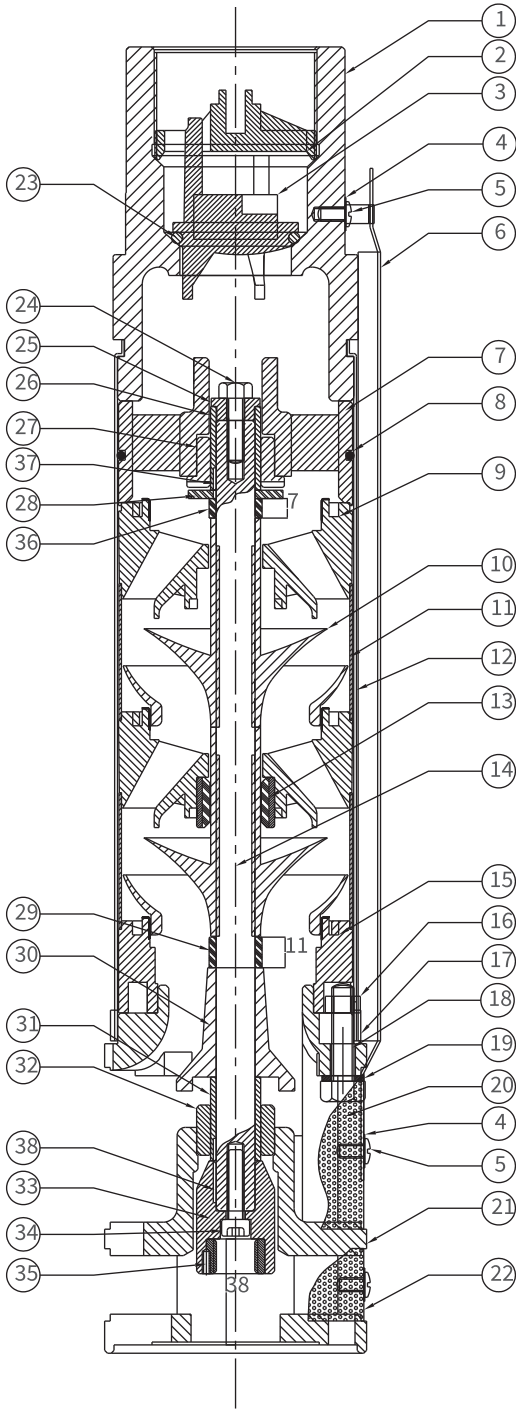
*D:With Cable Guard

Submersible Pumps

4MF 440C SERIES PUMP DESIGN

Material Specification

No.	PART'S NAME	MATERIAL	QTY
1	DELIVERY CASING	C.I.(F.G.200)	01
2	N.R.V. THREAD RING	P.P.O (20% G.F)	01
3	N.R.V CONE	NYLON	01
4	WAHSER	S.S.304	04
5	SCREW	S.S.304	04
6	CABLE GUARD	S.S. 202	01
7	D.O.L	P.P.O (20% G.F)	01
8	D.O.L 'O' RING	N.B.R	01
9	STAGE CASING	P.P.O (20% G.F)	1/ST
10	IMPELLER	P.P.O (20% G.F)	1/ST
11	BOWL PIPE	S.S.202	1/ST
12	PUMP PIPE	S.S. 202	01
13	METAL RUBBER BUSH	M.S/ N.B.R	01
14	PUMP SHAFT	S.S.410	01
15	SUCTION PLATE	P.P.O (20% G.F)	01
16	S.Q NUT	S.S.304	04
17	SPOT RING	S.S.202	01
18	HEX BOLT(SUCTION SIDE)	S.S.304	04
19	SPRING WASHER	SPRING STEEL	04
20	STRAINER	S.S.202	01
21	SUCTION	C.I.(F.G.200)	01
22	STRAINER	S.S.202	01
23	N.R.V CONE 'O' RING	N.B.R	01
24	HEX BOLT(TOP SIDE)	S.S.304	01
25	TOP COLLER	S.S.410	01
26	TOP SLEEVE(WITH H/C)	S.S.410	01
27	C.T. BEARING BUSH	L.T.B 4 (2%Ni)	01
28	THRUST PLATE	S.S.202	01
29	DISTANCE SLEEVE	P.P.O (20% G.F)	01
30	DISTANCE SLEEVE	P.P.O (20% G.F)	01
31	SLEEVE (SUCTION)	S.S.410	01
32	BUSH(SUCTION)	L.T.B 4 (2%Ni)	01
33	COUPLING(EXPORT)	S.S.304	01
34	ALLEN BOLT	S.S.304	01
35	GRUB SCREW	S.S.304	01
36	TOP SLEEVE	P.P.O (20% G.F)	01
37	KEY	S.S.410	01
38	KEY	S.S.410	01



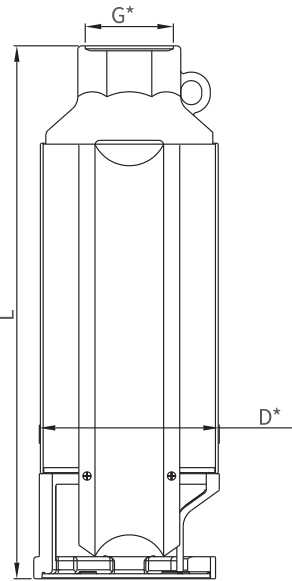
4RF 400, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m ³ /h	Discharge							
Single Phase	Three Phase		kW	HP		0	23	42	55	85	100	115	120
						0	1.38	2.52	3.3	5.1	6.0	6.9	7.2

4RF 400-05	4RF 400-05	5	0.55	0.75	HEAD IN Mtrs.	29	28	26	25	20	18	15	13
4RF 400-07	4RF 400-07	7	0.75	1.00		41	39	37	35	29	25	21	18
4RF 400-08	4RF 400-08	8	1.10	1.50		46	44	42	40	33	29	24	21
4RF 400-10	4RF 400-10	10	1.10	1.50		58	56	53	50	41	36	30	26
4RF 400-12	4RF 400-12	12	1.50	2.00		70	67	63	60	49	43	36	31
4RF 400-14	4RF 400-14	14	2.20	3.00		81	78	74	70	57	50	42	36
4RF 400-16	4RF 400-16	16	2.20	3.00		93	89	84	80	66	58	48	42
4RF 400-18	4RF 400-18	18	2.20	3.00		104	100	95	90	74	65	54	47
4RF 400-22	4RF 400-22	22	2.20	3.00		128	122	116	110	90	79	66	57
	4RF 400-25	25	3.00	4.00		145	139	132	125	102	90	75	65
	4RF 400-31	31	4.00	5.50		180	172	164	155	127	112	93	81

Dimensions & Weights



Model name	Specification			
	D (mm)	L (mm)	Pump Weight kg.	Weight (incl.pkg) kg
4RF 400-05	100	383	3.5	5.5
4RF 400-07	100	450	4.0	6.0
4RF 400-08	100	483	4.5	6.5
4RF 400-10	100	550	5.0	7.0
4RF 400-12	100	616	5.0	7.0
4RF 400-14	100	683	5.5	7.5
4RF 400-16	100	730	6.0	8.0
4RF 400-18	100	816	6.5	8.5
4RF 400-22	100	979	7.0	9.0
4RF 400-25	100	1079	8.0	10.0
4RF 400-31	100	1309	12.0	14.0

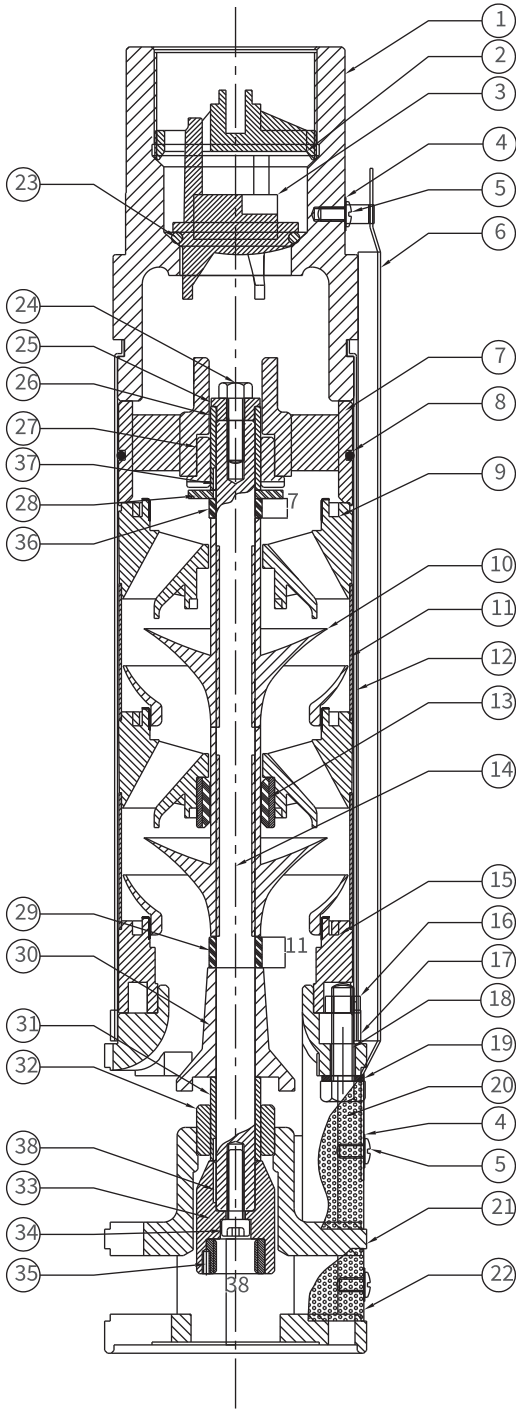
*G:Available Outlet Size 1.50" & 2.0"
*D:With Cable Guard

Submersible Pumps

4MF 440C SERIES PUMP DESIGN

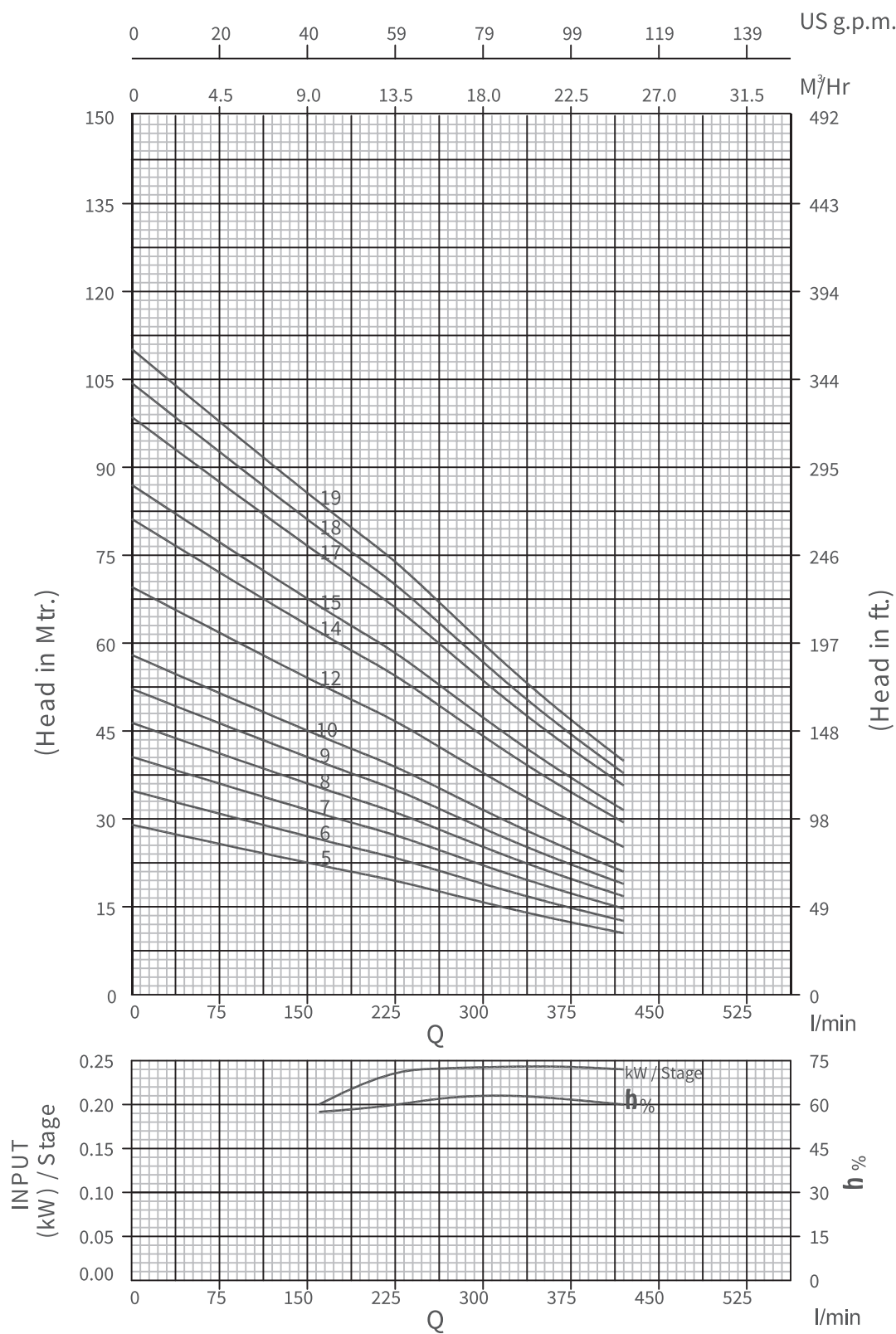
Material Specification

No.	PART'S NAME	MATERIAL	QTY
1	DELIVERY CASING	C.I.(F.G.200)	01
2	N.R.V. THREAD RING	P.P.O (20% G.F)	01
3	N.R.V CONE	NYLON	01
4	WAHSER	S.S.304	04
5	SCREW	S.S.304	04
6	CABLE GUARD	S.S. 202	01
7	D.O.L	P.P.O (20% G.F)	01
8	D.O.L 'O' RING	N.B.R	01
9	STAGE CASING	P.P.O (20% G.F)	1/ST
10	IMPELLER	P.P.O (20% G.F)	1/ST
11	BOWL PIPE	S.S.202	1/ST
12	PUMP PIPE	S.S. 202	01
13	METAL RUBBER BUSH	M.S/ N.B.R	01
14	PUMP SHAFT	S.S.410	01
15	SUCTION PLATE	P.P.O (20% G.F)	01
16	S.Q NUT	S.S.304	04
17	SPOT RING	S.S.202	01
18	HEX BOLT(SUCTION SIDE)	S.S.304	04
19	SPRING WASHER	SPRING STEEL	04
20	STRAINER	S.S.202	01
21	SUCTION	C.I.(F.G.200)	01
22	STRAINER	S.S.202	01
23	N.R.V CONE 'O' RING	N.B.R	01
24	HEX BOLT(TOP SIDE)	S.S.304	01
25	TOP COLLER	S.S.410	01
26	TOP SLEEVE(WITH H/C)	S.S.410	01
27	C.T. BEARING BUSH	L.T.B 4 (2%Ni)	01
28	THRUST PLATE	S.S.202	01
29	DISTANCE SLEEVE	P.P.O (20% G.F)	01
30	DISTANCE SLEEVE	P.P.O (20% G.F)	01
31	SLEEVE (SUCTION)	S.S.410	01
32	BUSH(SUCTION)	L.T.B 4 (2%Ni)	01
33	COUPLING(EXPORT)	S.S.304	01
34	ALLEN BOLT	S.S.304	01
35	GRUB SCREW	S.S.304	01
36	TOP SLEEVE	P.P.O (20% G.F)	01
37	KEY	S.S.410	01
38	KEY	S.S.410	01



4MF 440C, 50Hz
ISO 9906 Annexure A

Performance Curves



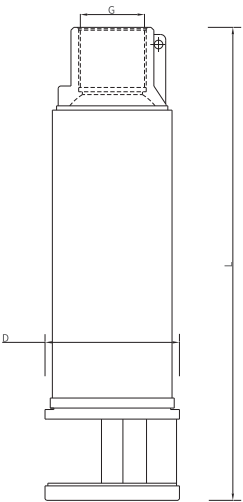
4MF 440C, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name			Rating			Discharge						
Single Phase	Three Phase	Stage	kW	HP	l/min	0	160	215	255	315	370	420
					m³/h	0	9.6	12.9	15.3	18.9	22.2	25.2

Model Name	Stage	kW	HP	HEAD IN Mtrs.	29	22	20	18	15	12	10
4MF 440C-05	5	1.50	2.00		35	26	24	22	18	15	13
4MF 440C-06	6	1.50	2.00		41	31	28	25	21	18	15
4MF 440C-07	7	2.20	3.00		46	35	32	29	24	20	17
4MF 440C-08	8	2.20	3.00		52	40	36	32	27	22	19
	4MF 440C-09	9	3.00	4.00	58	44	40	36	30	25	21
	4MF 440C-10	10	3.00	4.00	70	53	48	43	36	30	25
	4MF 440C-12	12	4.00	5.50	81	62	56	50	42	35	29
	4MF 440C-14	14	4.50	6.00	87	66	60	54	45	38	31
	4MF 440C-15	15	4.50	6.00	99	75	68	61	51	42	36
	4MF 440C-17	17	5.50	7.50	104	79	72	65	54	45	38
	4MF 440C-18	18	5.50	7.50	110	84	76	68	57	48	40
	4MF 440C-19	19	5.50	7.50							

Dimensions & Weights



Model name	Specification			
	D	L	Weight (Kg)	Weight (incl.pkg.)(kg)
4MF-440C-05	98	694	8.5	10.5
4MF-440C-06	98	769	12.5	14.5
4MF-440C-07	98	844	17.0	19.0
4MF-440C-08	98	919	19.0	21.0
4MF-440C-09	98	994	21.0	23.0
4MF-440C-10	98	1069	23.0	25.0
4MF-440C-12	98	1219	27.0	29.0
4MF-440C-14	98	1369	31.0	33.0
4MF-440C-15	98	1519	33.0	35.0
4MF-440C-17	98	1594	37.0	39.0
4MF-440C-18	98	1669	39.0	41.0
4MF-440C-19	98	1744	41.0	43.0

*G:Available Outlet Size 2"

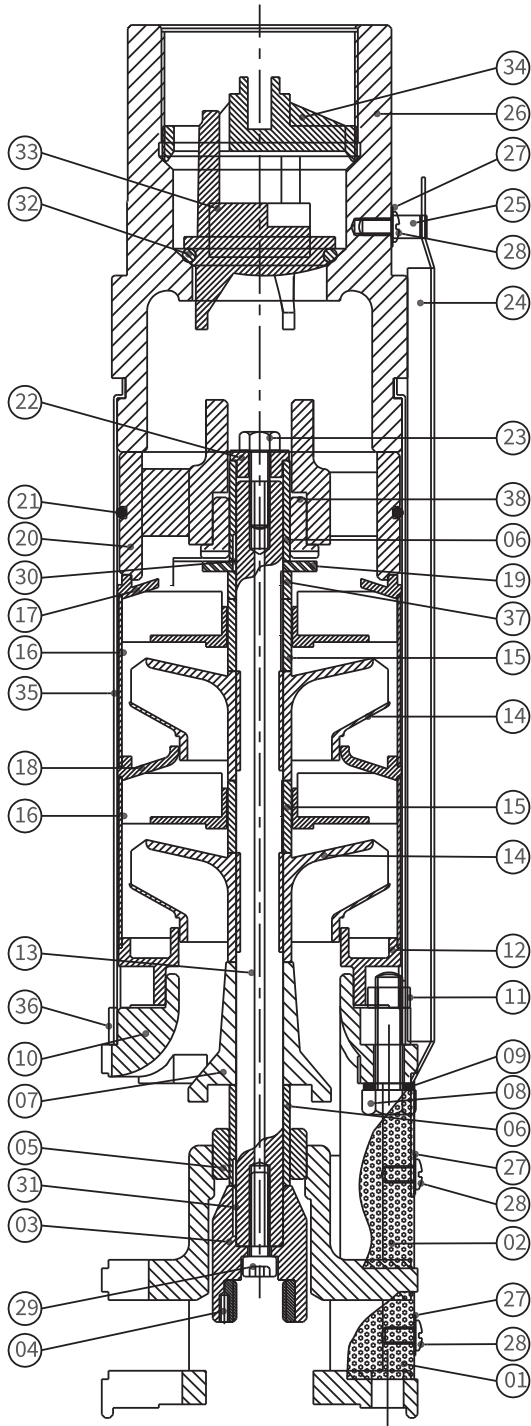
*D:With Cable Guard

Submersible Pumps

4MF 470 SERIES PUMP DESIGN

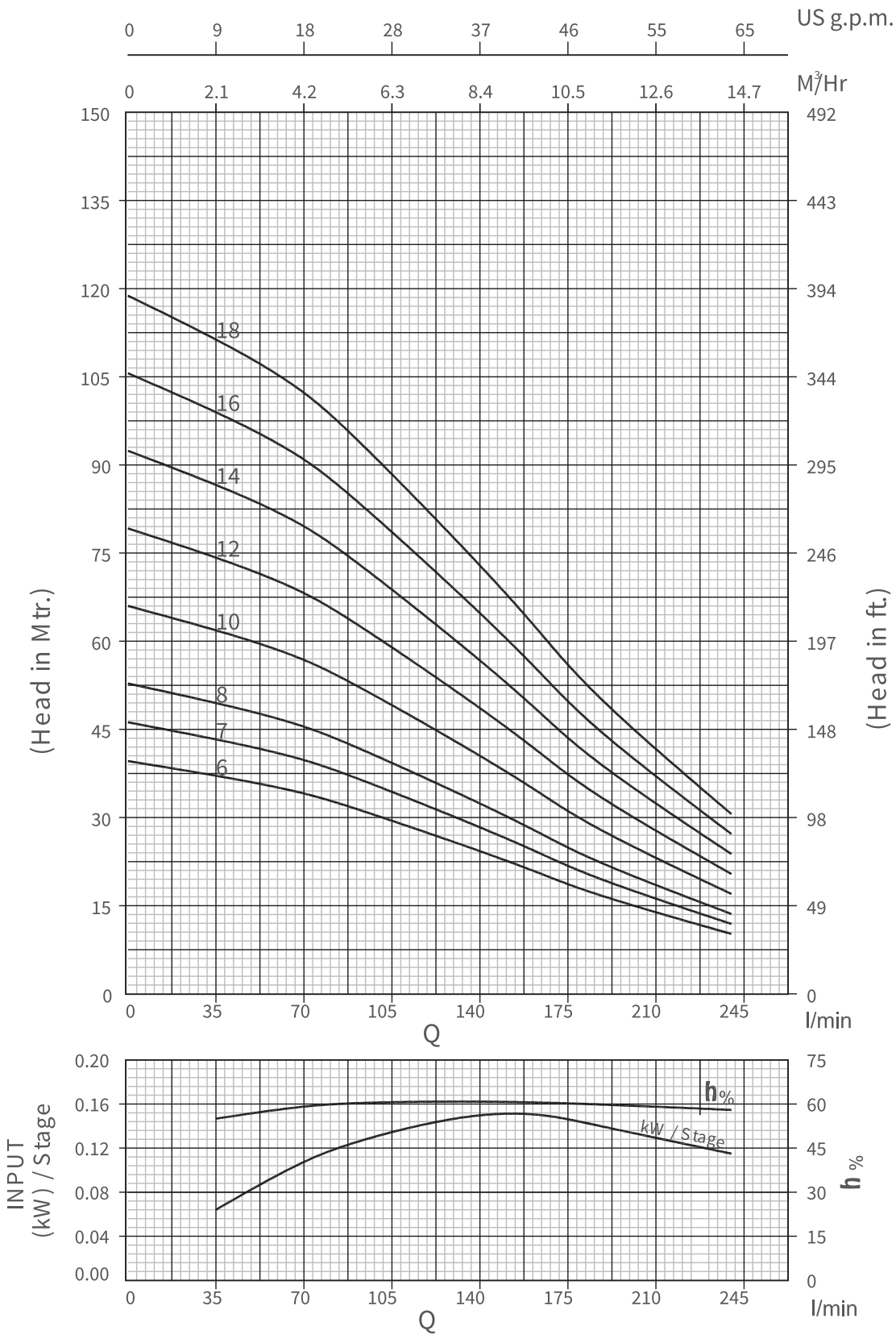
Material Specification

SR	PART NAME	MATERIAL	QTY
1	STRAINER	S.S.202	01
2	STRAINER	S.S.202	01
3	COUPLING	S.S.304	01
4	GRUB SCREW	S.S.304	01
5	SUCTION BUSH	L.T.B.4(2% NI)	01
6	SLEEVE(H/C)	S.S.410	02
7	DISTANCE SLEEVE	P.P.O.(20% G.F.)	01
8	HEX BOLT	S.S.304	04
9	SPRING WASHER	S.S.304	04
10	SUCTION (EXPORT)	C.I.(F.G.200)	01
11	SQUARE NUT	S.S.304	04
12	SUCTION PLATE	P.P.O.(20% G.F.)	01
13	PUMP SHAFT	S.S.410	01
14	IMPELLER	P.P.O.(20% G.F.)	1/ST
15	SLEEVE	P.P.O.(20% G.F.)	1/ST
16	BOWL PIPE	S.S.202	1/ST
17	TOP CASING	P.P.O.(20% G.F.)	01
18	STAGE CASING	P.P.O.(20% G.F.)	1/ST-1
19	THRUST PLATE	S.S. 202	01
20	D.O.L	P.P.O.(20% G.F.)	01
21	D.O.L. 'O' RING	NITRILE RUBBER	01
22	TOP COLLAR	S.S.410	01
23	HEX BOLT	S.S.304	01
24	CABLE GUARD	S.S.202	01
25	CABLE CLIP	S.S.202	01
26	DELIVERY CASING	C.I.(F.G.200)	01
27	WASHER	BRASS	04
28	SCREW	S.S.304	04
29	ALLEN BOLT	S.S.304	01
30	KEY	S.S.410	01
31	KEY	S.S.304	01
32	N.R.V.CONE 'O' RING	NITRILE RUBBER	01
33	N.R.V.CONE	NYLON	01
34	N.R.V. THREAD RING	P.P.O.(20% G.F.)	01
35	PUMP PIPE	S.S.202	01
36	SPOT RING	S.S.202	01
37	TOP SLEEVE	P.P.O.(20% G.F.)	01
38	C.T. BEARING BUSH	L.T.B.4(2% NI)	01



4MF 470, 50Hz
ISO 9906 Annexure A

Performance Curves



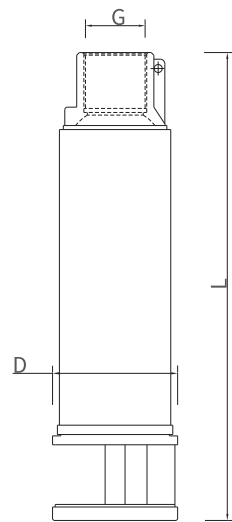
4MF 470, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Rating			Discharge								
Single Phase	Three Phase	Stage	kW	HP	l/min m ³ /h	0	35	65	85	135	165	185	240
						0	2.1	3.9	5.1	8.1	9.9	11.7	14.4

4MF 470-06	4MF 470-06	6	1.10	1.50	HEAD IN Mtrs.	40	37	35	32	25	20	17	10
4MF 470-07	4MF 470-07	7	1.10	1.50		46	43	41	38	29	24	20	12
4MF 470-08	4MF 470-08	8	1.50	2.00		53	50	46	43	34	27	22	14
4MF 470-10	4MF 470-10	10	2.20	3.00		66	62	58	54	42	34	28	17
4MF 470-12	4MF 470-12	12	2.20	3.00		79	74	70	65	50	41	34	20
	4MF 470-14	14	3.00	4.00		92	87	81	76	59	48	39	24
	4MF 470-16	16	4.00	5.50		106	99	93	86	67	54	45	27
	4MF 470-18	18	4.00	5.50		119	112	104	97	75	61	50	31

Dimensions & Weights



Model name	Specification			
	D	L	Weight (Kg)	Weight (incl.pkg.)(kg)
4MF-470-06	98	630	8.5	10.5
4MF-470-07	98	684	8.5	10.5
4MF-470-08	98	738	9.0	11.0
4MF-470-10	98	846	10.0	12.0
4MF-470-12	98	954	10.5	12.5
4MF-470-14	98	1062	11.5	13.5
4MF-470-16	98	1170	12.0	14.0
4MF-470-18	98	1278	12.5	14.5

*G:Available Outlet Size 2"

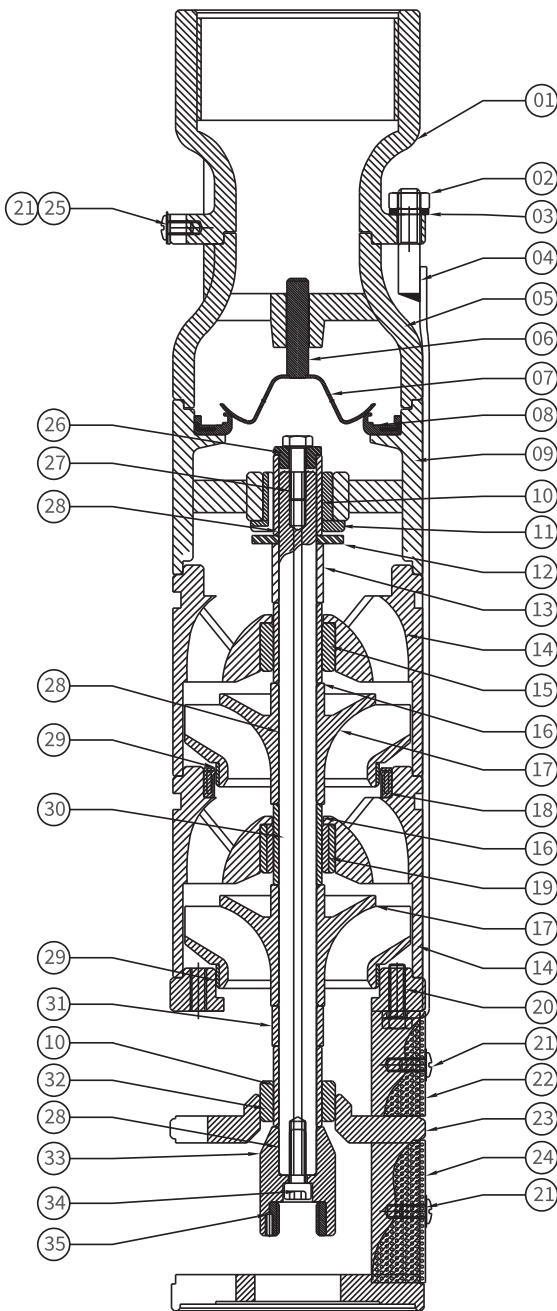
*D:With Cable Guard

Submersible Pumps

4MF 490 SERIES PUMP DESIGN

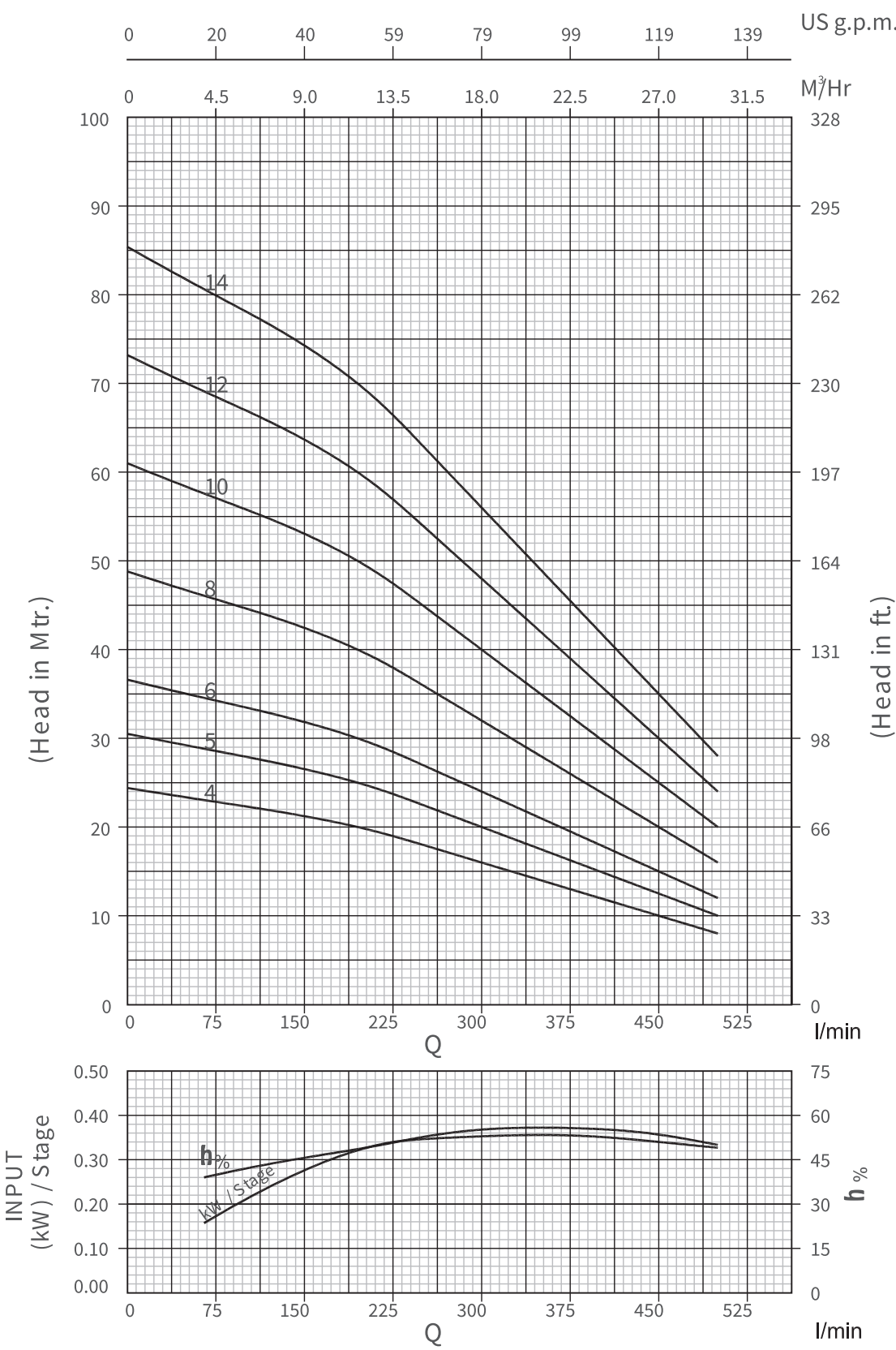
Material Specification

No.	PART'S NAME	MATERIAL	QTY.
1	DELIVERY CASING PART-1	C.I (F.G-200)	01
2	HEX NUT (USE FOR PUMP PATTI)	S.S.304	04
3	WASHER (USE FOR PUMP PATTI)	S.S.304	04
4	PUMP PATTI	S.S.304	04
5	DELIVERY CASING PART-2	C.I (F.G-200)	01
6	N.R.V CONE STUD	S.S.410	01
7	N.R.V CONE	S.S.304	01
8	RUBBER NECKRING (FOR D.O.L)	N.B.R/M.S	01
9	D.O.L	C.I (F.G-200)	01
10	D.O.L SLEEVE	S.S.410	01
10	SLEEVE (SUCTION PLATE)	S.S.410	01
11	C.T BEARING BUSH (USE FOR D.O.L)	L.T.B-4 2% Ni	01
12	THRUST PLATE	S.S.202	01
13	DISTANCE SLEEVE (TOP SIDE)	NYLON	01
14	STAGE CASING	C.I (F.G-200)	1/ST
15	BEARING BUSH	L.T.B-4 2% Ni	1/ST
16	BOWL SLEEVE	S.S.410	1/ST
17	REGULAR IMPELLER	S.S.410	1/st
18	BOWL NECKRING	N.B.R/M.S	1/ST
19	RUBBER MATEL BUSH	N.B.R/M.S	1/ST
20	HEX BOLT (USE FOR PUMP PATTI)	S.S.304	04
21	SCREW	S.S.304	04
21	SCREW WASHER	S.S.304	04
22	STRAINER-1	S.S.202	01
23	SUCTION	C.I (F.G-200)	01
24	STRAINER-2	S.S.202	01
25	CABLE CLIP	S.S.202	01
26	TOP COLLER	S.S.410	01
27	HEX BOLT (TOP SIDE)	S.S.304	01
28	KEY (TOP SLEEVE)	S.S.410	01
28	KEY (BOTTOM SLEEVE)	S.S.410	01
28	KEY (IMPELLER)	S.S.410	/ST
29	IMPELLER NECKRING	S.S.202	01/ST
30	PUMP SHAFT	S.S.410	01
31	DISTANCE SLEEVE (SUCTION SIDE)	P.P.O (20% G.F)	01
32	BEARING BUSH (FOR SUCTION)	L.T.B-4 2% Ni	01
33	COUPLING	S.S.304	01
34	ALLEN BOLT	S.S.304	01
35	GRUB SCREW	S.S.304	01



4MF 490, 50Hz
ISO 9906 Annexure A

Performance Curves

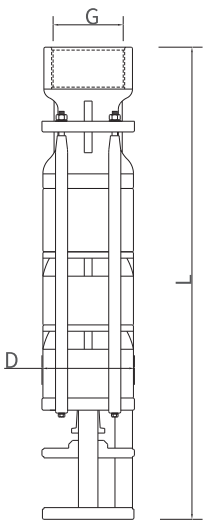


4MF 490, 50Hz
ISO 9906 Annexure A

Performance Chart

Model Name		Stage	Rating		l/min m³/h	Discharge												
Single Phase	Three Phase		kW	HP		0	65	120	200	250	300	350	400	450	500			
						0	3.9	7.2	12	15	18	21	24	27	30			
4MF 490-04	4MF 490-04	4	2.20	3.00	HEAD IN Mtrs.	24	23	22	20	18	16	14	12	10	8			
4MF 490-05	4MF 490-05	5	2.20	3.00		30	29	28	25	22	20	18	15	12	10			
4MF 490-06	4MF 490-06	6	2.20	3.00		37	34	33	30	27	24	21	18	15	12			
	4MF 490-08	8	3.00	4.00		49	46	44	40	36	32	28	24	20	16			
	4MF 490-10	10	4.00	5.50		61	58	55	50	45	40	35	30	25	20			
	4MF 490-12	12	4.50	6.00		73	69	66	60	54	48	42	36	30	24			
	4MF 490-14	14	5.50	7.50		85	80	77	70	63	56	49	42	35	28			

Dimensions & Weights



Model name	Specification			
	D	L	Weight (kg)	Weight (incl.pkg.)(kg)
4MF-490-04	98	635	8.5	10.5
4MF-490-05	98	710	12.0	14.0
4MF-490-06	98	785	15.0	17.0
4MF-490-08	98	935	19.5	21.5
4MF-490-10	98	1085	23.0	25.0
4MF-490-12	98	1235	27.5	29.5

*G:Available Outlet Size 2" & 2.5"
*D:With Cable Guard