

NPM4 Series 4" Rewindable Oil-Filled Motors

NPM4 Series 4" Motors

DESCRIPTION

COVERCO is a long recognized Italian manufacturer of high quality submersible motors with more than 50 years of experience in the industry. FRANKLIN ELECTRIC acquired COVERCO in year 2002, further strengthening COVERCO R&D capability, production capacity, sales and service networks, delivering expanded product portfolio around the globe.

The 4" submersible motors NPM4 Series is the optimized version of our field proven Coverco oil-filled motor.

FEATURES

- Coverco 4" electric motors ensure reliable operation in wells with diameters equal to or greater than 4"
- The axial and radial oil lubricated bearings allow for maintenance-free operation
- The pressure compensation inside the motor is ensured by a special membrane

ADVANTAGES

- Stator submerged in oil
- Sand protection and mechanical seal to allow for optimal operation even in the presence of sand in the well
- Excellent efficiency and low operating costs
- All motors are pre-filled with liquid and 100% tested

TECHNICAL DATA

- Ratings: 0.37 - 7.5 kW
- 4" NEMA flange
- Protection rating: IP68
- Number of starts per hour: max. 30
- Vertical and horizontal operation (prior authorization from our technical department)
- Standard rated voltage:
 - Single Phase: 220V 50Hz
 - Three Phase: 380V 50Hz
- Voltage tolerance: $\pm 10\%$
- Insulation class: F
- Ambience temperature: 30°C
- Cable dimensions: 4x1.5mm²
- Cooling flow rate: min. 0.08 m/sec
- Water pH: 6.5-8
- Thrust Load: 1500 N, 2500 N, 4500 N

PERFORMANCE DATA SINGLE-PHASE

210-220-230 V AT 50 HZ

Phase	Power		Voltage (V)	In (A)	RPM	Efficiency (n%)			Power factor (cos)			Capacitor (uF)
	HP	kW				50	75	100	50	75	100	
1	0.5	0.37	220	3.3	2835	37.2	47.9	54.8	0.882	0.940	0.972	20
	0.75	0.55	220	4.6	2810	41.1	52.5	58.8	0.869	0.937	0.971	25
	1	0.75	220	5.8	2810	45.9	56.7	62.4	0.811	0.903	0.957	30
	1.5	1.1	220	8.5	2805	48.0	59.1	64.7	0.768	0.879	0.948	35
	2	1.5	220	10.9	2800	53.6	62.9	66.4	0.807	0.910	0.964	40
3	2.2	220	15.5	2810	51.4	64.8	69.5	0.824	0.923	0.974	70	

PERFORMANCE DATA THREE-PHASE

380-400-415 V AT 50 HZ

Phase	Power		Voltage (V)	In (A)	RPM	Efficiency (n%)			Power factor (cos)		
	HP	kW				50	75	100	50	75	100
3	2	1.5	380	3.8	2825	69.9	73.8	73.9	0.628	0.757	0.833
	3	2.2	380	5.7	2810	72.2	75.8	75.6	0.554	0.703	0.801
	4	3	380	7.5	2815	73.9	77.0	76.6	0.579	0.721	0.808
	5.5	4	380	10.2	2820	74.6	77.7	77.5	0.572	0.719	0.811
	7.5	5.5	380	13.2	2830	78.3	80.1	79.1	0.617	0.757	0.84
	10	7.5	380	18.3	2850	76.4	79.5	79.3	0.558	0.709	0.806

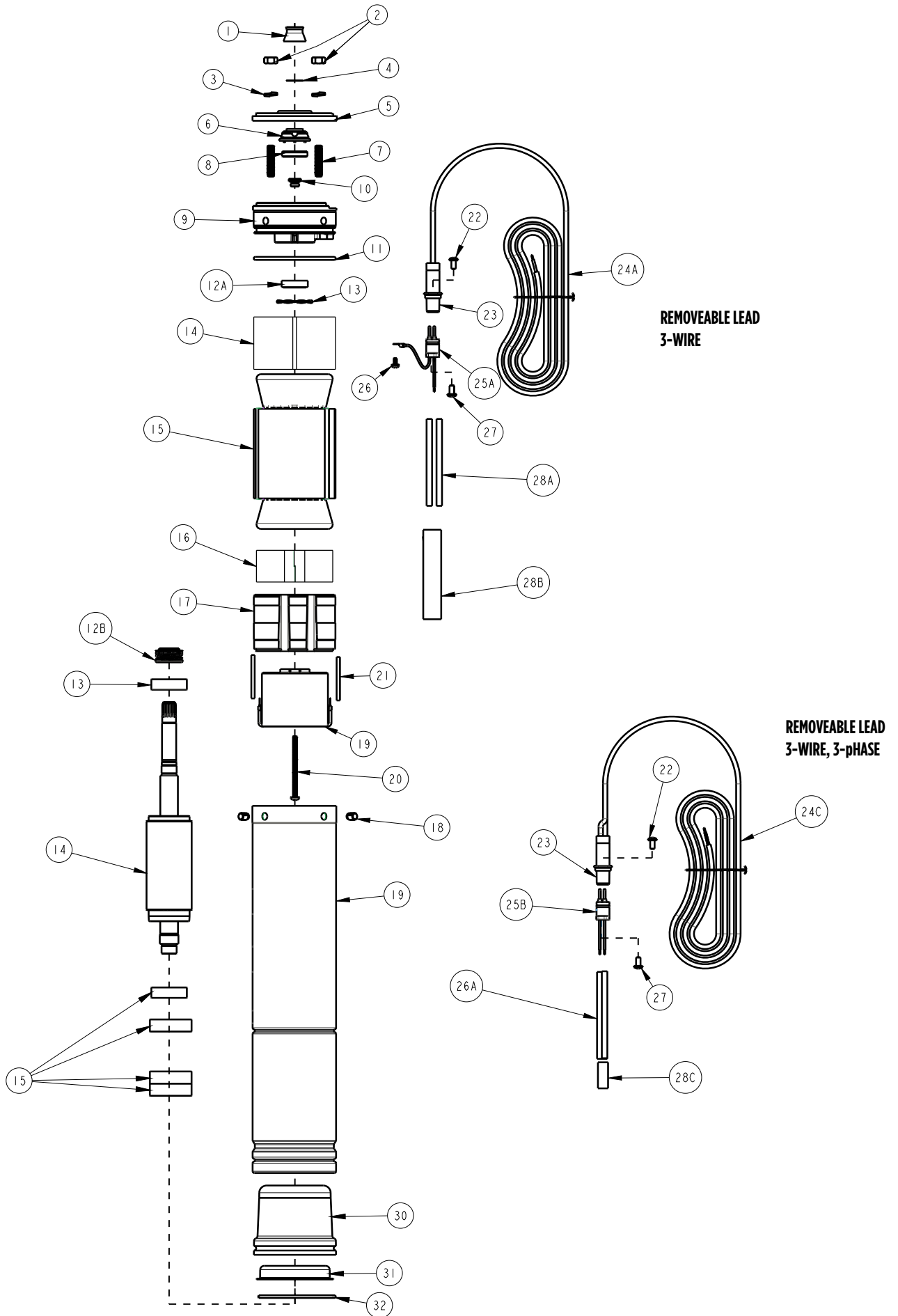
Ordering Information

3-WIRE SINGLE PHASE MODELS

HP	kW	Model No.	Volts	Hz	S.F.	Lead Type	Thrust Rating (N)
0.5	0.37	2752030252GS	230	50	1.0	Removable	1500
0.75	0.55	2752130252GS	230	50	1.0	Removable	1500
1	0.75	2752230252GS	230	50	1.0	Removable	1500
1.5	1.1	2752330252GS	230	50	1.0	Removable	1500
2	1.5	2752430352GS	230	50	1.0	Removable	2500
3	2.2	2752530352GS	230	50	1.0	Removable	2500

THREE-PHASE MODELS

HP	kW	Model No.	Volts	Hz	S.F.	Lead Type	Thrust Rating (N)
2	1.5	2742460352GS	380	50	1.0	Removable	2500
3	2.2	2742560352GS	380	50	1.0	Removable	2500
4	3	2742660452GS	380	50	1.0	Removable	4500
5.5	4	2742860452GS	380	50	1.0	Removable	4500
7.5	5.5	2742960452GS	380	50	1.0	Removable	4500
10	7.5	2743060452GS	380	50	1.0	Removable	4500



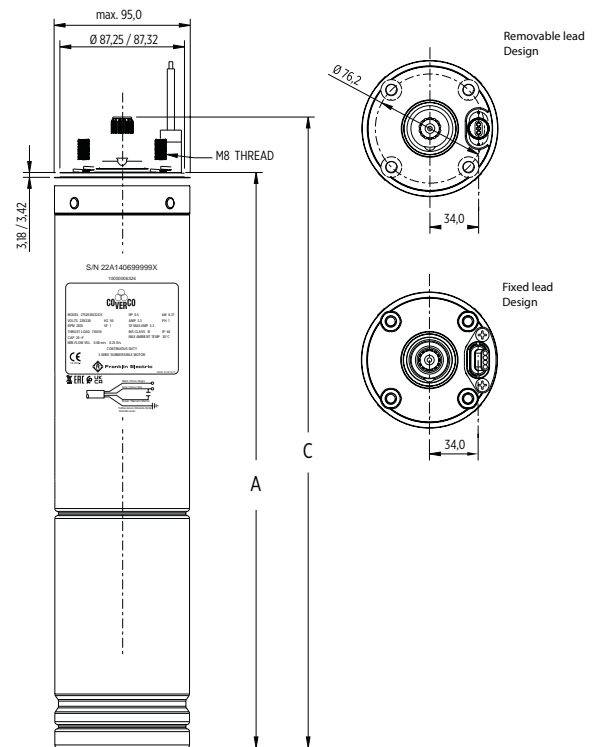
MATERIAL OF CONSTRUCTION

#	Part Description	Qty	Material
1	Sand Slinger	1	NBR
2	Nut	4	304SS
3	Washer	4	304SS
4	Washer	1	304SS
5	Top End Bell Cover	1	304SS
6	Sand Slinger Base	1	Polyacetal (POM)
7	Stud	4	304SS
8	Lip Seal	1	NBR
9	Top End Bell	1	E-Coated Cast-Iron
10	Oil Fill Plug	1	Brass
11	O-Ring for Top End Bell	1	NBR
12	Mechanical Shaft Seal	1	NBR-Carbon and cermaic face seal
13	Wave Spring	1	Hi Carbon Steel
14	Top Insulation Roll-Up	1	Mylar A
15	Wound Stator	1	Copper wire/Steel
16	Bottom Insulation Roll-Up	1	Mylar A
17	Bottom End Bell	1	Aluminum
18	Lock Pins	4	304SS
19	Capacitor	1	PBT or PBO case, epoxy or urethane fill
20	Capacitor Screw	1	zinc plated steel
21	Shrink tube	2	polyolefin
22	Screw for Lead Clamp	1	304SS
24	Lead Material	1	VPE/EPR/Cu
25	Internal Connector	1	PA/Cu/NBR/
26	SEMS Grounding Screw	1	zinc plated steel
28	Lead Sleeveing		Glass/Silicone
29	Lead Seal Rubber	1	NBR
30	Pressure Equalization Diaphram	1	NBR
31	Diaphrabm Retainer/Cover	1	304SS
32	Retaining Ring	1	304SS
33	Parallel Connectors	3	CuZn/Sn
34	Lead Clamp Bushing	1	Nylon
35	Lead Clamp Plate	1	304SS
36	Upper Ball Bearing	1	SS
37	Lower Ball Bearing	1-2	SS
38	Shrink Tube	3	polyolefin
39	Rotor with Shaft	1	Steel/304SS/AL/CU
40	Motor Outer Shell	1	304SS
41	Lead Pressure Disk	2	Polyamid
	Filling Solution - Non-Toxic Oil		Food Contact Grade Mineral Oil

DIMENSIONAL DATA AND DRAWING

SINGLE-PHASE MOTORS 50 HZ

4" 1-3-wire Motors 50Hz					
P _N [HP]	P _N [kW]	A [mm]	C [mm]	Weight [kg]	Oil [kg]
0.5	0.37	327	365	7.4	0.7
0.75	0.55	336	374	8	0.71
1	0.75	35	395	8.5	0.72
1.5	1.1	380	419	8.8	0.73
2	1.5	426	464	10.8	0.74
3	2.2	475	513	12.5	0.78



THREE-PHASE MOTORS 50 HZ

4" 3- Motors 50Hz					
P _N [HP]	P _N [kW]	A [mm]	C [mm]	Weight [kg]	Oil [kg]
2	1.5	388	426	8.8	0.74
3	2.2	426	464	10.8	0.75
4	3	475	513	12.8	0.76
5.5	4	540	579	15.5	0.82
7.5	5.5	635	673	18.3	0.84
10	7.5	744	782	24.3	0.87

CB25 Control Box

Control Box that provides protection to Coverco single phase oil filled submersible

Technical Data

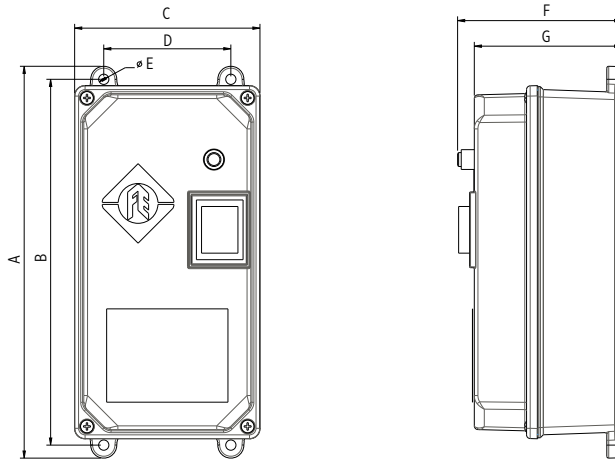
- Main internal components: Switch, Thermal Relay and Permanent Capacitor
- IP-53 thermoplastic external box
- Power: 0.5HP a 3HP
- Voltage: 220V single phase



Ordering Information

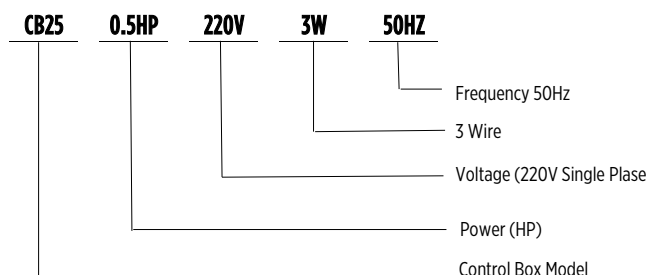
Model	Description	Power HP	Voltage V	Item No
CB25	CB25 0.5HP 220V 3W 50HZ	0.5	220	87511190-00
	CB25 0.75HP 220V 3W 50HZ	0.75		87511191-00
	CB25 1.0HP 220V 3W 50HZ	1		87511192-00
	CB25 1.5HP 220V 3W 50HZ	1.5		87511193-00
	CB25 2.0HP 220V 3W 50HZ	2		87511194-00
	CB25 3.0HP 220V 3W 50HZ	3		87511195-00

Dimension



Model	Dimensions (mm)							Weight kg
	A	B	C	D	E (φ)	F	F	
CB25	210	196	99	68.1	5.5	100	79	0.61

Product Identification





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Franklin Electric (SEA) Pte Ltd

ASEAN|Bangladesh|Pakistan|Sri Lanka

17 Changi Business Park Central 1 | #06-05 Honeywell Building | Singapore 486073

Phone. +65 6789 6865 - Fax. +65 6789 0155



www.franklinwatersea.com



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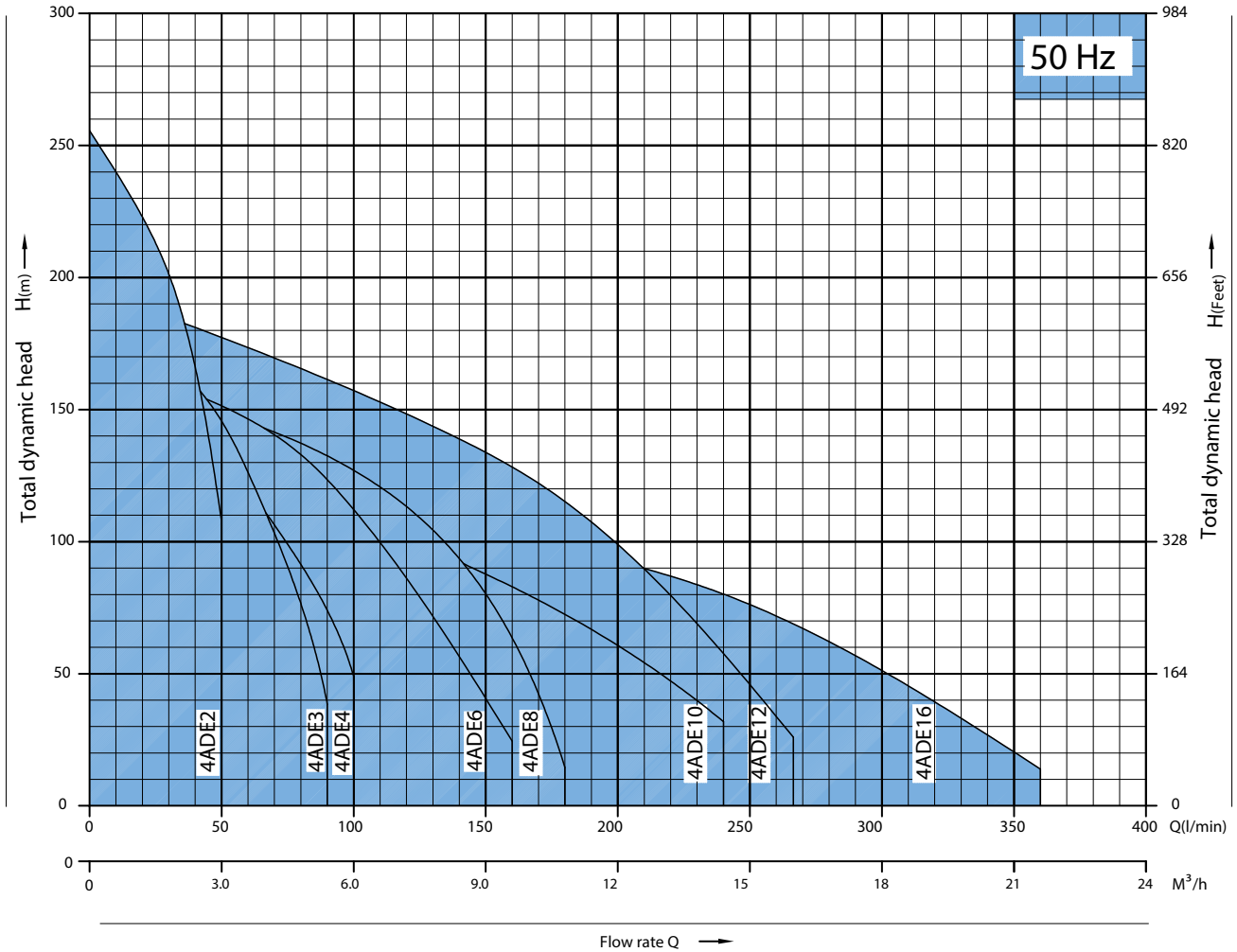


ADE Series 4" Deep Well Submersible Pump

4" SUBMERSIBLE PUMP

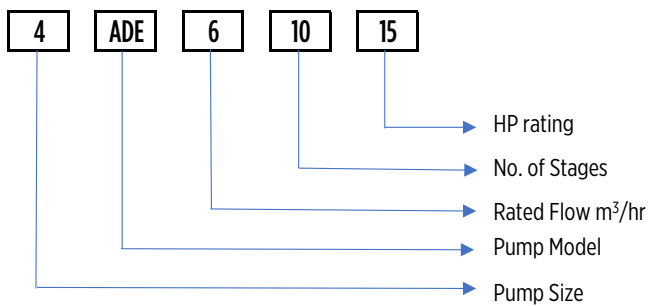
Family Curves.....	3
Model Numbering.....	3
Submersible Pump Application and Features	4
4ADE2.....	5
Performance Curve	
4ADE3	6
Performance Curve	
4ADE4.....	7
Performance Curve	
4ADE6.....	8
Performance Curve	
4ADE8.....	9
Performance Curve	
4ADE10.....	10
Performance Curve	
4ADE12.....	11
Performance Curve	
4ADE16.....	12
Performance Curve	
Material of Construction.....	13

FAMILY CURVES



PRODUCT NUMBERING

4ADE6-10/15



4" SUBMERSIBLE PUMPS

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The COVERCO 4" submersible pumps are constructed with high quality material and features floating impeller system. These enable our pumps endure against wear when operating in abrasive and sandy well condition.

APPLICATIONS

- Municipal Water Works
- Water supply from tank, reservoir, and well.
- Residential and agriculture
- Irrigation for various purposes, sprinkler systems
- Domestic water supply
- General Industries

FEATURES

- Excellent resistance against corrosion with fully stainless steel casing; and cast stainless steel pump discharge outlet and bracket.
- Greater tolerance against sand through sophisticated hydraulic design and the use of engineered thermoplastic material for impeller that has superior wear resistance properties.
- Protection against water hammering with built-in check valve.
- Cost effective solution through optimized hydraulic design to enhance overall pumping efficiency to reduce energy consumption.

PUMP SPECIFICATION

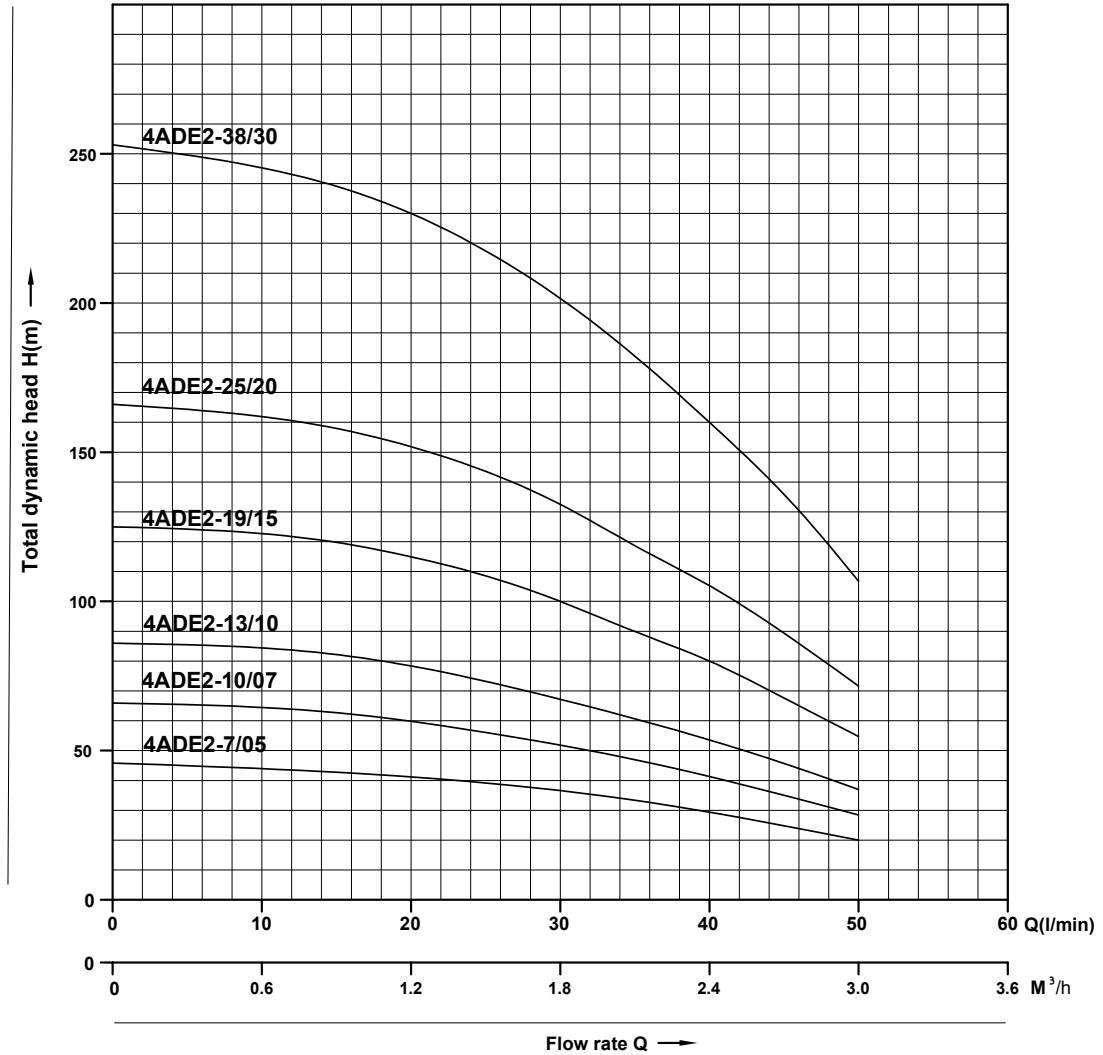
- Flow: up to 24m³/hr, Head up to 250m at 50Hz
- Outlet Size: 1.5" for 2, 3, 4ADE and 2" for 6, 8, 10, 12, 16ADE
- Maximum allowable amount of sand: 400 g/m³
- Maximum Pump diameter: 97mm
- NEMA standard dimensions
- Pump can work continuously in vertical or horizontal positions (requires our consultation to confirm horizontal applications type)

AVAILABLE UPON REQUEST

- Head up to 500m
- Different pump discharge sizes

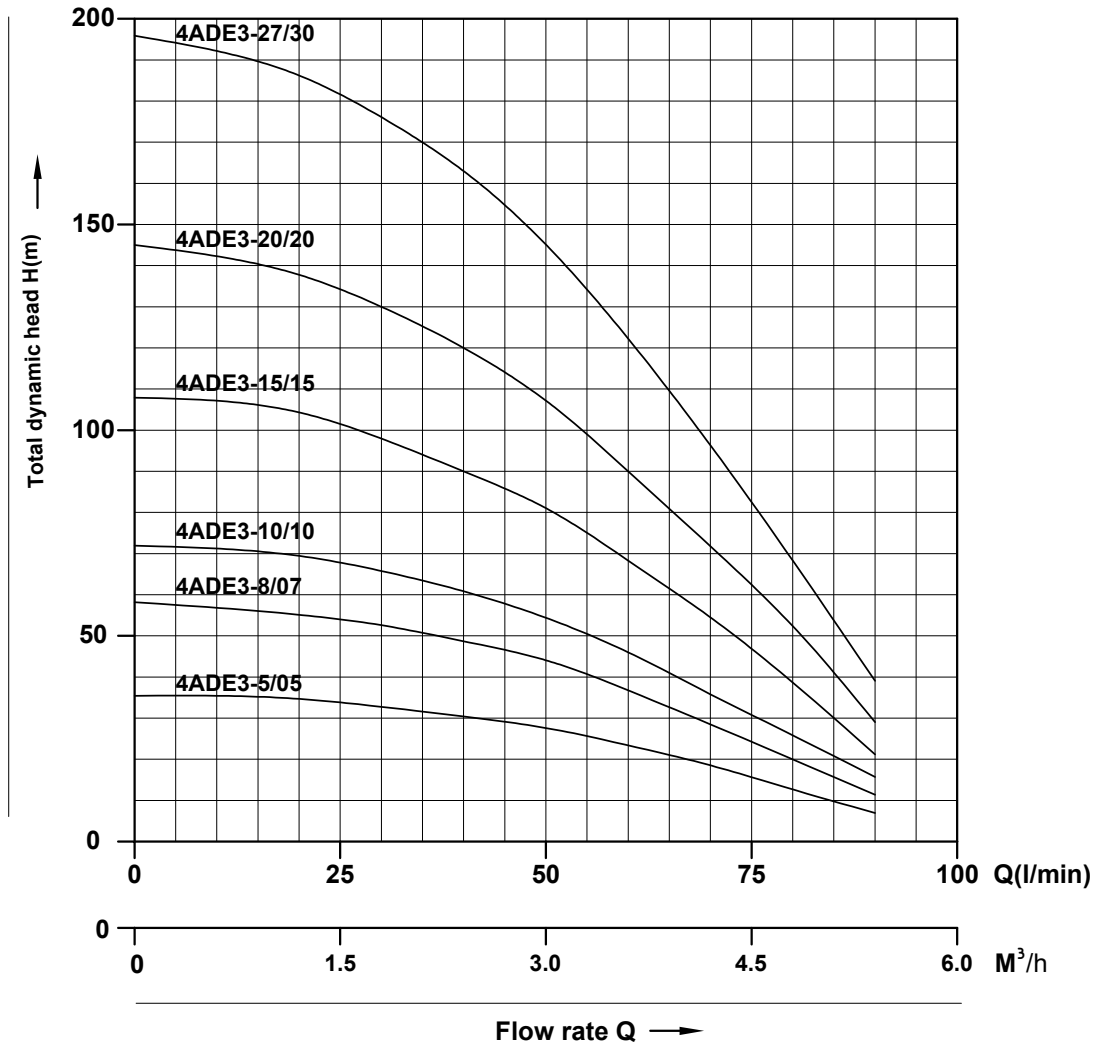


2ADE - PERFORMAMANCE CURVE AT 50Hz



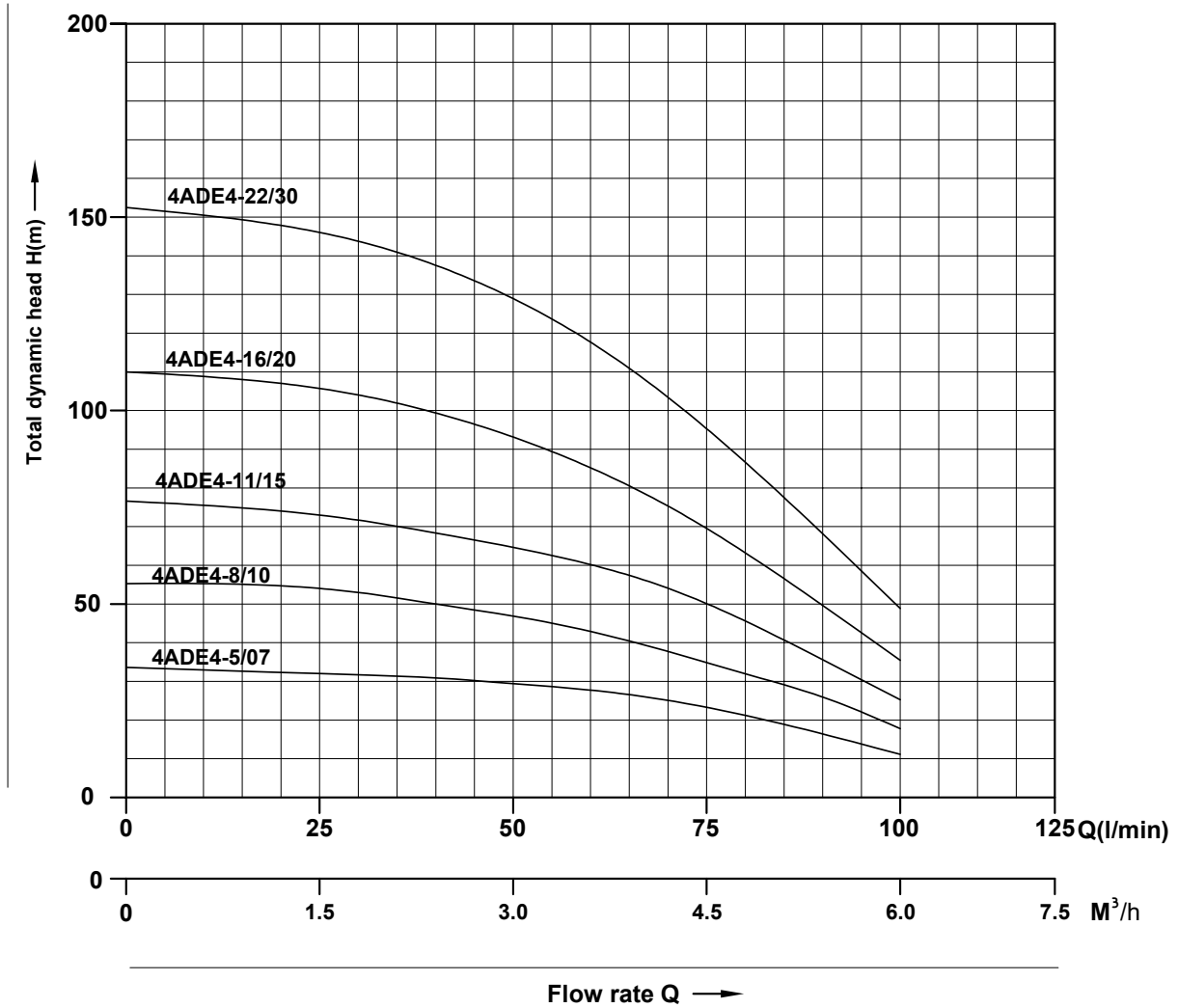
Pump Model	No. of Stages	Motor		Pump	Q	Delivery								
		KW	HP	Outlet (inch)		0	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
					Q	0	15	20	25	30	35	40	45	50
4ADE2-7/05	7	0.37	0.5	1.5"	Head H m	46	44	42	40	36	33	29	24	20
4ADE2-10/07	10	0.55	0.75	1.5"		66	63	60	57	52	47	42	35	28
4ADE2-13/10	13	0.75	1.00	1.5"		86	82	78	74	68	61	55	45	37
4ADE2-19/15	19	1.10	1.50	1.5"		126	120	115	109	100	90	80	67	54
4ADE2-25/20	25	1.50	2.00	1.5"		166	158	151	143	132	119	105	89	71
4ADE2-38/30	38	2.20	3.00	1.5"		252	240	230	218	201	181	160	135	108

3ADE - PERFORMANCE CURVE AT 50Hz



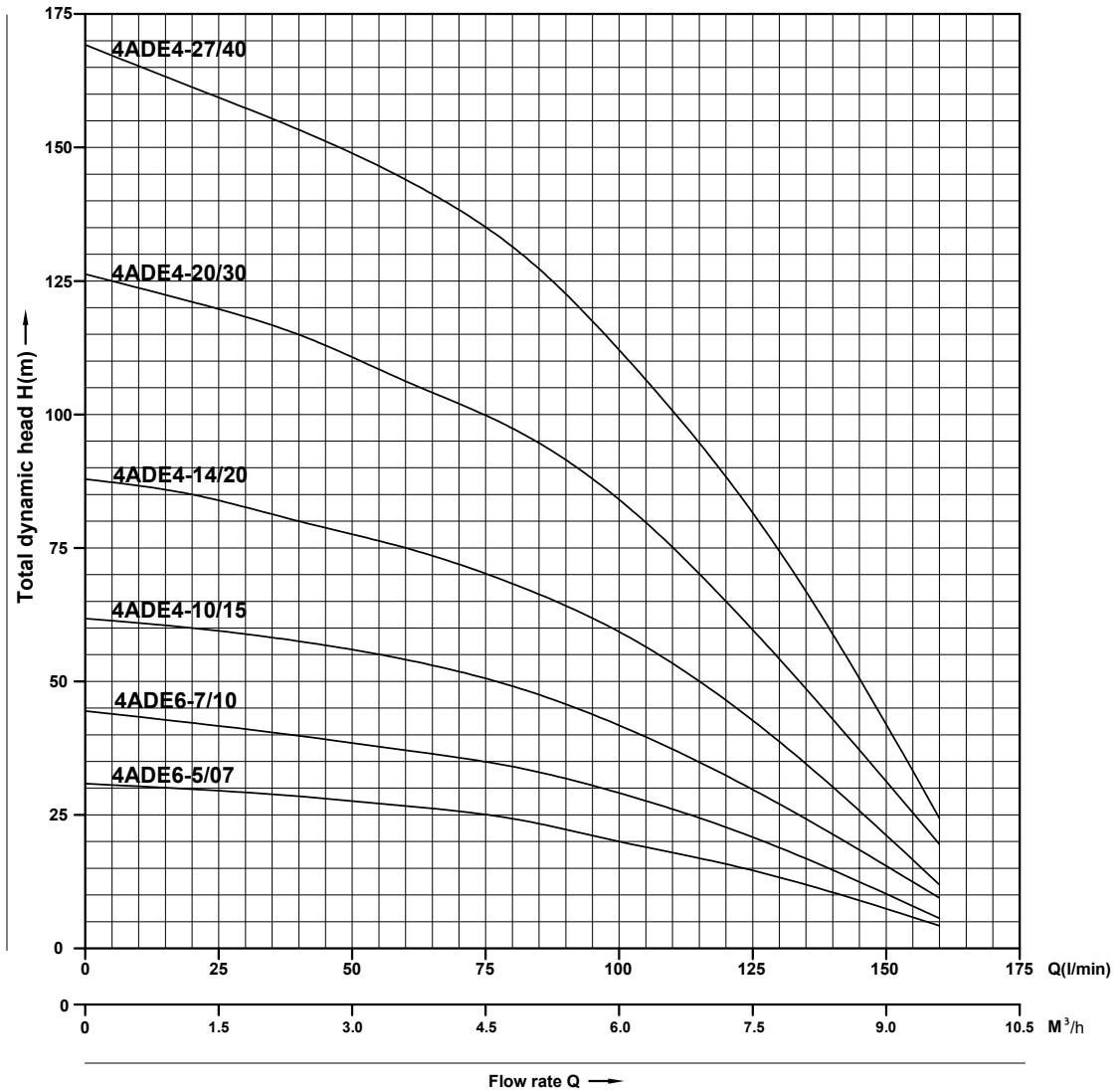
Pump Model	N. of Stages	Motor		Pump Outlet (inch)	Q m ³ /h l/min	Delivery								
		KW	HP			0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
4ADE3-5/05	5	0.37	0.50	1.5"		0	20	30	40	50	60	70	80	90
4ADE3-8/07	8	0.55	0.75	1.5"	Head H m	36	34	32	30	27	23	18	13	7
4ADE3-10/10	10	0.75	1.00	1.5"		58	55	52	48	43	36	28	20	11
4ADE3-15/15	15	1.10	1.50	1.5"		72	69	65	60	53	45	35	25	14
4ADE3-20/20	20	1.50	2.00	1.5"		109	104	98	90	81	68	53	39	22
4ADE3-27/30	27	2.20	3.00	1.5"		145	138	130	120	108	90	70	52	29
						196	186	176	162	145	122	95	70	39

4ADE- PERFORMAMANCE CURVE AT 50Hz



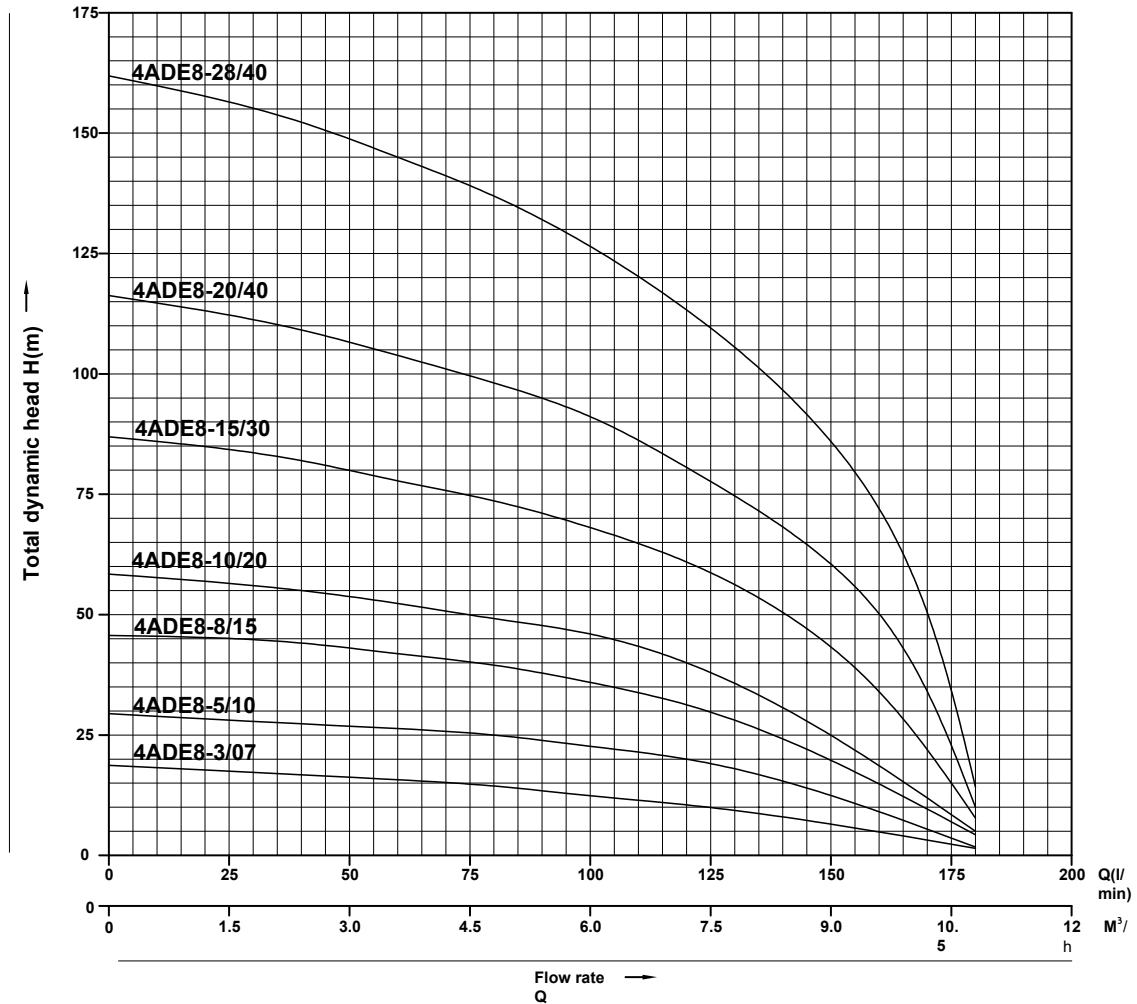
Pump Model	N. of Stages	Motor		Pump	Q	Delivery									
		KW	HP	Outlet (Inch)		m³/h	0	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
							l/min	0	30	40	50	60	70	80	90
4ADE4-5/07	5	0.55	0.75	1.5"	Head H m	34	32	31	29	27	24	19	16	11	
4ADE4-8/10	8	0.75	1.00	1.5"		55	52	49	47	44	38	31	25	18	
4ADE4-11/15	11	1.10	1.50	1.5"		76	71	67	65	60	53	43	34	24	
4ADE4-16/20	16	1.50	2.00	1.5"		110	104	98	94	86	76	62	49	36	
4ADE4-22/30	22	2.20	3.00	1.5"		151	143	134	130	119	104	85	68	49	

6ADE - PERFORMANCE CURVE AT 50Hz



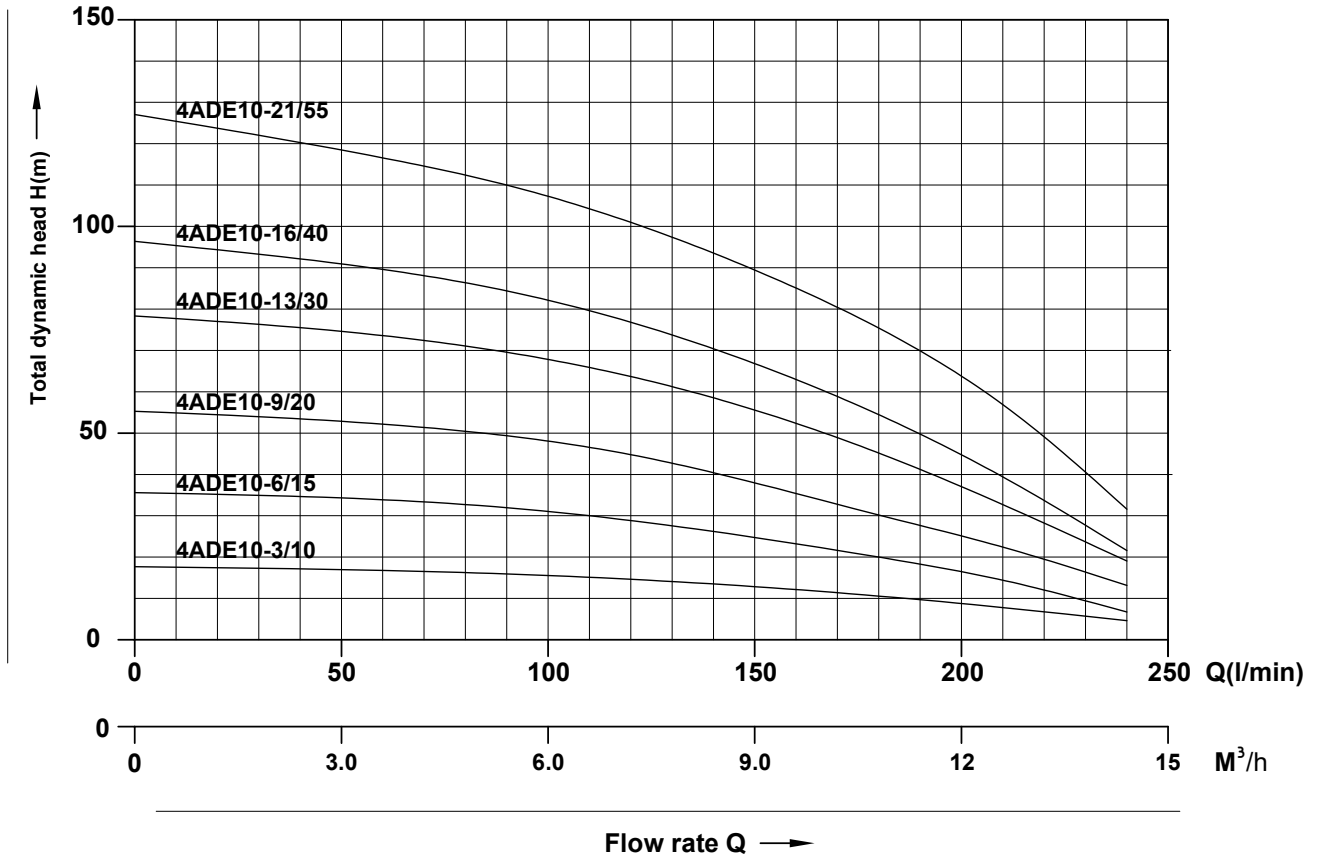
Pump Model	N. of Stages	Motor		Pump Outlet (inch)	Q	Delivery								
		KW	HP			0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6
					m ³ /h	0	20	40	60	80	100	120	140	160
4ADE6-5/07	5	0.55	0.75	2"	Head H m	31	30	28	26	24	20	16	10	4
4ADE6-7/10	7	0.75	1.00	2"		44	42	39	37	34	29	23	14	6
4ADE6-10/15	10	1.10	1.50	2"		63	60	56	54	49	42	33	21	9
4ADE6-14/20	14	1.50	2.00	2"		88	85	78	75	68	59	46	30	13
4ADE6-20/30	20	2.20	3.00	2"		126	121	112	107	98	84	65	43	19
4ADE6-27/40	27	3.00	4.00	2"		169	162	152	144	132	112	88	56	24

8ADE - PERFORMAMANCE CURVE AT 50Hz



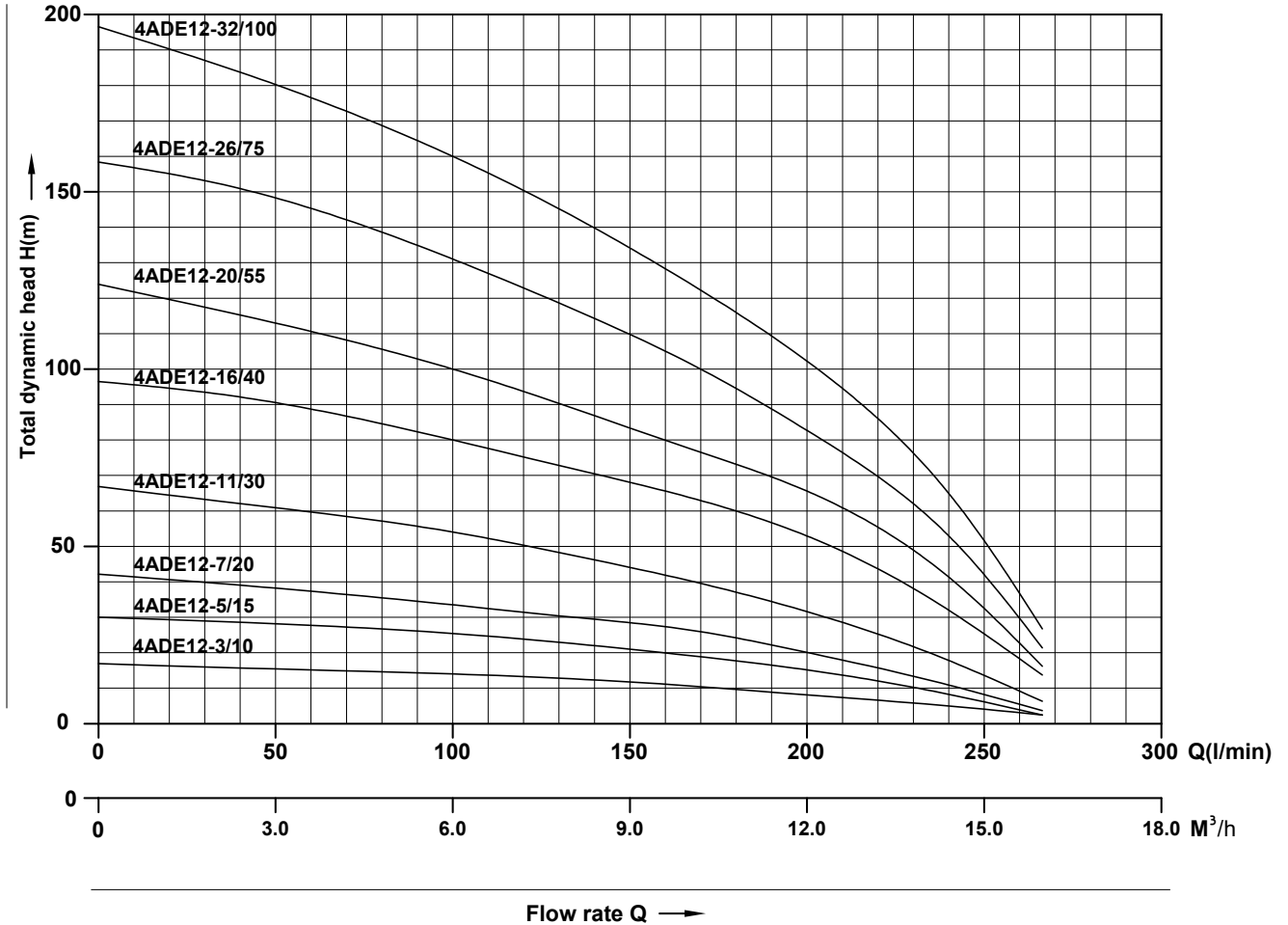
Pump Model	N. of Stages	Motor		Pump	Q	Delivery									
		KW	HP	Outlet (inch)		0	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	
					$\frac{m^3}{h}$	0	40	60	80	100	120	140	160	180	
4ADE8-3/07	3	0.55	0.75	2"	Head H m	18	16	15	14	13	12	10	7	2	
4ADE8-5/10	5	0.75	1.00	2"		29	27	26	25	23	20	17	13	3	
4ADE8-8/15	8	1.10	1.50	2"		46	44	41	39	36	32	27	21	4	
4ADE8-10/20	10	1.50	2.00	2"		58	55	52	49	45	41	35	25	5	
4ADE8-15/30	15	2.20	3.00	2"		87	82	78	74	68	61	51	39	8	
4ADE8-20/40	20	3.00	4.00	2"		116	109	103	98	91	81	69	52	10	
4ADE8-28/40	28	4.00	5.50	2"		162	153	145	137	127	114	96	72	14	

10ADE- PERFORMANCE CURVE AT 50Hz



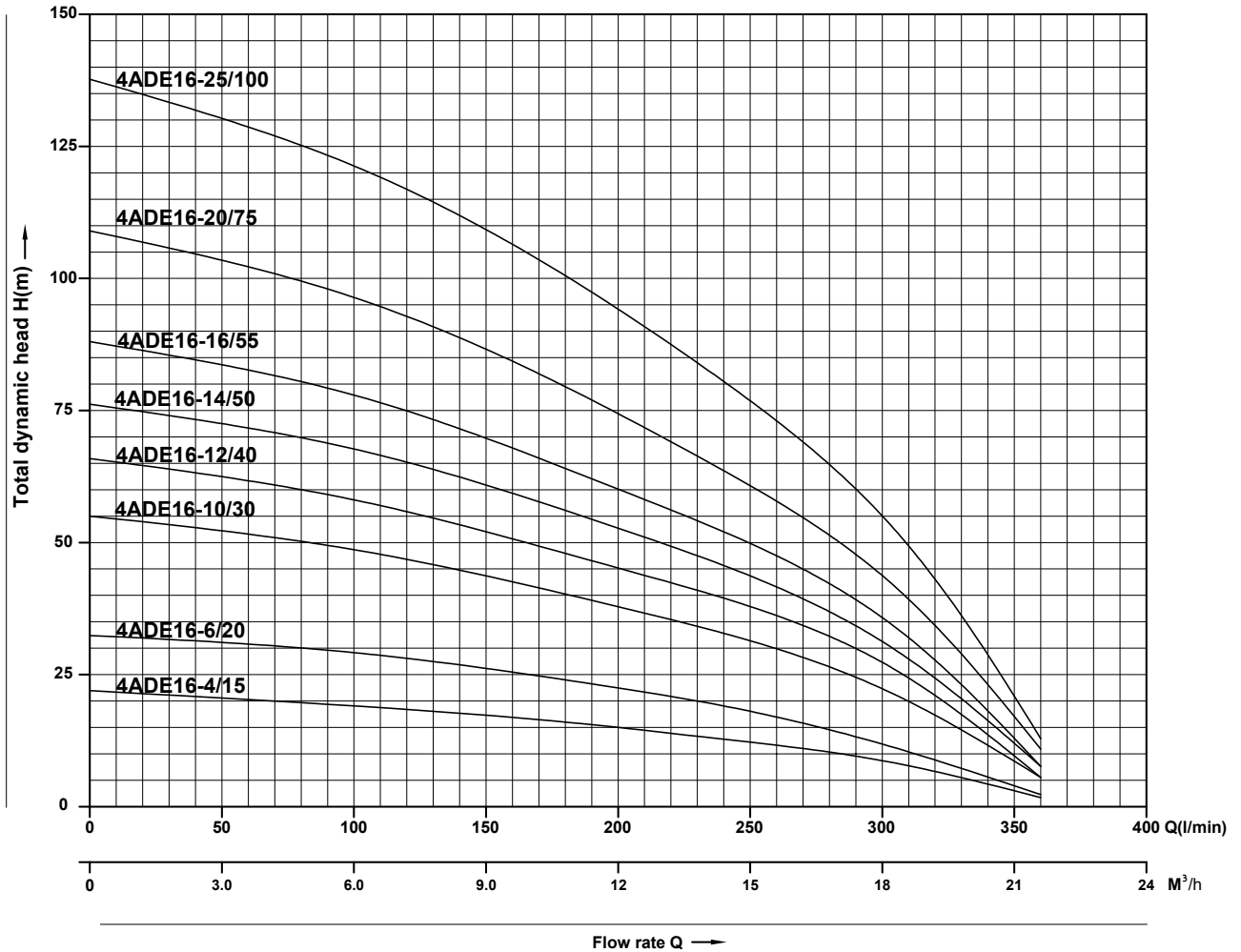
Pump Model	N. of Stages	Motor		Pump	Q	Delivery								
		KW	HP	Outlet (inch)		Q								
						0	1.8	3.6	5.4	7.2	9.0	10.8	12.6	14.4
4ADE10-3/10	3	0.75	1.00	2"	Q	0	30	60	90	120	150	180	210	240
4ADE10-6/15	6	1.10	1.50	2"	Head H m	18	17	16	15	14	12	9	7	4
4ADE10-9/20	9	1.50	2.00	2"		36	35	33	31	29	24	18	14	8
4ADE10-13/30	13	2.20	3.00	2"		55	53	50	47	43	37	28	22	13
4ADE10-16/40	16	3.00	4.00	2"		79	77	72	68	63	54	41	37	19
4ADE10-21/55	21	4.00	5.50	2"		96	93	89	84	78	66	50	38	22
						128	124	116	110	102	87	66	57	31

12ADE- PERFORMAMANCE CURVE AT 50Hz



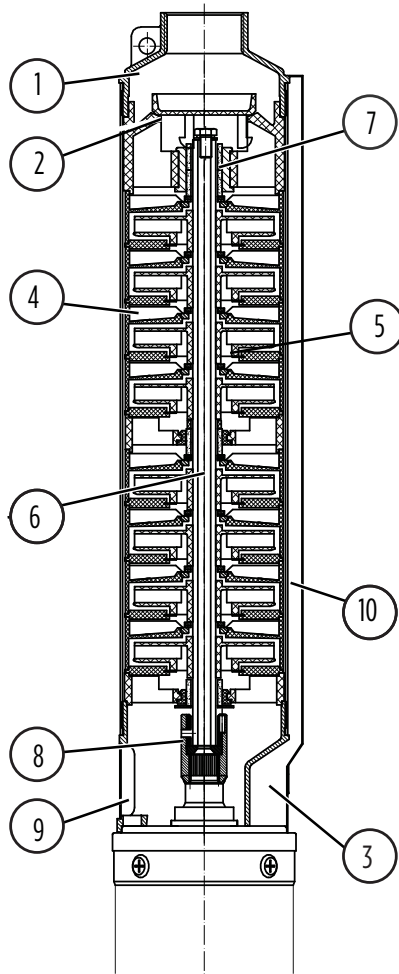
Pump Model	N. of Stages	Motor		Pump	Q m³/h l/min	Delivery								
		KW	HP	Outlet (inch)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
4ADE12-3/10	3	0.75	1.00	2"	Head H m	0	33	67	100	133	167	200	233	267
4ADE12-5/15	5	1.10	1.50	2"		18	17	16	14	13	11	8	5	2
4ADE12-7/20	7	1.50	2.00	2"		30	28	26	24	21	18	14	9	2
4ADE12-11/30	11	2.20	3.00	2"		42	39	37	33	30	25	19	12	3
4ADE12-16/40	16	3.00	4.00	2"		66	62	58	53	47	40	31	20	5
4ADE12-20/55	20	4.00	5.50	2"		98	93	86	80	71	62	51	36	13
4ADE12-26/75	26	5.50	7.50	2"		123	116	108	100	89	78	64	45	16
4ADE12-32/100	32	7.50	10.00	2"		159	151	140	130	115	101	83	59	21
					196	186	172	160	142	124	102	72	26	

16ADE - PERFORMANCE CURVE AT 50Hz



Pump Model	N. of Stages	Motor		Pump	Q m ³ /h l/min	Delivery								
		KW	HP	Outlet (inch)		0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	21.6
						0	100	130	165	200	230	265	300	360
4ADE16-4/15	4	1.10	1.50	2"	Head H m	22	19	17	15	14	13	11	9	2
4ADE16-6/20	6	1.50	2.00	2"		33	29	27	23	22	20	16	13	3
4ADE16-10/30	10	2.20	3.00	2"		55	48	45	39	37	34	28	23	6
4ADE16-12/40	12	3.00	4.00	2"		66	58	54	47	44	41	33	27	6
4ADE16-14/50	14	3.70	4.00	2"		76	68	62	55	52	47	39	31	8
4ADE16-16/55	16	4.00	5.50	2"		88	77	72	62	58	55	45	36	8
4ADE16-20/75	20	5.50	7.50	2"		109	96	89	78	73	68	56	45	11
4ADE16-25/100	25	7.50	10.00	2"		137	121	112	97	91	85	71	56	13

Material of Construction



No.	4" SS Pump Parts	Materials
1	Discharge Head	Casted Stainless Steel
2	Non Return Valve	Polycarbonate
3	Bottom Bracket (Motor Adapter)	Casted Stainless Steel
4	Impeller	Polyformaldehyde (POM)
5	Diffuser	Polycarbonate with Ceramic Insert
6	Shaft	Stainless Steel
7	Bearing	N.B.R.
8	Coupling	Stainless Steel
9	Filter	Stainless Steel
10	Cable Guard	Stainless Steel



COVERCO is a long recognized Italian manufacturer of high quality submersible motors with more than 50 years of experience in the industry. FRANKLIN ELECTRIC acquired COVERCO in year 2002, further strengthening COVERCO R&D capability, production capacity, sales and service networks, delivering expanded product portfolio around the globe.

Franklin Electric (SEA) Pte Ltd

ASEAN|Bangladesh|Pakistan|Sri Lanka

17 Changi Business Park Central 1 | #06-05 Honeywell Building | Singapore 486073

Phone. +65 6789 6865 - Fax. +65 6789 0155



www.franklinwatersea.com

