

# 4" Borehole



Model Numbers: J Series



## SLIMLINE SUBMERSIBLE BOREHOLE PUMPS

### APPLICATION

Ideal for domestic water supply, turf watering, irrigation, stock watering, dewatering and fountains.

### FEATURES & BENEFITS

- **Designed for flow rates up to 325 lpm and heads up to 275m.** Close coupled to a submersible electric motor.
- **Proven and reliable design** for harsh conditions
- **Manufactured from quality corrosion resistant materials** for long life
- **Specific impeller material selection** ensures optimal performance in sandy bores
- **25, 40 and 60 lpm models feature independently floating centrifugal (radial) impellers** to provide easy starting and long life - automatically adjusting to pumping conditions for each application
- **80, 110, 160 and 250lpm models feature locked stack partial mixed flow impellers with open waterways** to provide easy starting and long life
- **Heavy duty stainless steel outer casing shell** providing protection and accurate alignment of internal components
- **High quality shaft bearings** providing low friction and high wear resistance
- **Pump and motor** are easily serviceable
- **Heavy duty cast stainless steel discharge bowl with large durable lifting eye and built-in check valve** for long life and ease of installation
- **Strong hexagonal section drive shaft of premium stainless steel** ensures positive impeller drive and longer life
- **Available with either Davey DME Encapsulated motors or Davey DM Rewindable motors**

# Submersible Borehole Pumps and Motors

## OPERATING LIMITS

Nominal flows	25, 40, 60, 80, 110, 160 & 250 lpm
Maximum flow	325 lpm (19.5m <sup>3</sup> /hr)
Heads	275 metres
Motors	0.37kW (1/2hp) to 7.5kW (10hp)
Maximum water temperature	35°C
Pumped liquid	Clean, thin, non-aggressive liquids without solid particles or fibres.

## RECOMMENDED FLOW RANGE

Model	Minimum flow (lpm)	Maximum flow (lpm)
J25	15	31
J40	30	45
J60	44	70
J80	50	100
J110	80	140
J160	100	210
J250	150	310

### PUMP STARTS

The average number of starts per day over a period of months or years influences the life of a submersible pumping system. Excessive cycling affects the life of control components such as pressure switches, starters, relays and capacitors, plus splines and bearings. Rapid cycling can also cause motor overheating and winding failures.

The pump size, tank size and other controls should be selected to keep the starts per day as low as practical for longest life. The maximum allowable number of starts per hour is 30.

Motors should be allowed to run a minimum of one minute to dissipate heat build up from starting current.

### CHECK VALVES

All Davey submersible pumps are fitted with a check valve.

It is recommended that check valves be used in all submersible pump installations. A check valve should be installed in the discharge pipe within 7 metres of the pump, if the built-in check valve is not used.

## TYPE KEY: COMPLETE PUMPS

Example		K	D	J	5	25	D	2	1	E
Product Figuration	Complete Pump, Motor, Control box (where needed) and splice kit	X								
Motor	Davey Motor		X							
Pump Type	J-Series			X						
Power	Fractional hp eg 0.5Hp				X					
Rated Flow	lpm					X				
Wire	2 or 3							X		
Phase	1 or 3								X	
Motor Type	E = DM Rewindable E = DME Encapsulated									X

## MATERIALS OF CONSTRUCTION

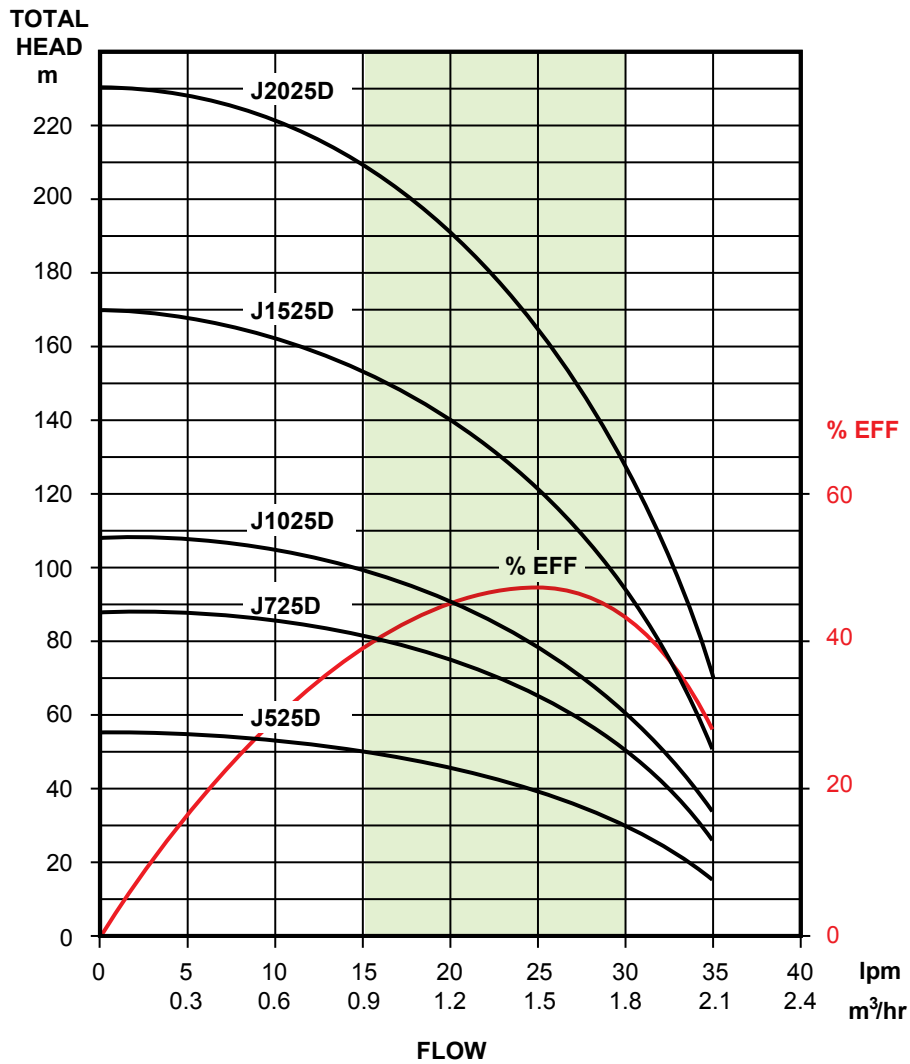
	Models: 25, 40 & 60 lpm	Models: 80, 110, 160 & 250 lpm
Discharge	303 stainless steel	
Impeller	Polyester with Teflon fill	Glass-filled Polycarbonate
Diffuser	Polyester with Teflon fill	Glass-filled Polycarbonate
Shaft guide bearing	Buna-N	
Pump casing	304 stainless steel	
Shaft and coupling	303 stainless steel	
Wear rings	304 stainless steel	
Check valve	Polyester with Teflon fill	303 SS and Acetal
Cable guard	304 stainless steel	
Thrust washer (ea. stage)	Phenolic	Nyloil
Fasteners	302-304 stainless steel	
Lower mounting bracket	Stainless steel reinforced composite for up to 1.1kW, full SS 1.5kW and 2.2kW	304 stainless steel
Suction strainer	304 stainless steel	304 stainless steel
Design Features		
Impellers	Floating	Fixed
Check valve	Internal non-spin	External

## DIMENSIONS (MM) AND WEIGHTS (Kg)

Model	Discharge BSP Female	Motor Power (P <sub>2</sub> )		Stages	Pump Details		Assembled Units			
		kW	hp		Length	Weight	Single Phase		Three Phase	
							Length	Weight	Length	Weight
J525D	1 1/4"	0.37	1/2	8	432	4.1	757	11.1	757	10.6
J725D	1 1/4"	0.55	3/4	13	532	5.5	857	13.1	857	12.5
J1025D	1 1/4"	0.75	1	16	584	6.4	934	15.1	909	14.0
J1525D	1 1/4"	1.10	1 1/2	25	826	8.2	1211	18.5	1176	16.9
J2025D	1 1/4"	1.50	2	33	990	11.8	1410	23.8	1375	22.2
J540D	1 1/4"	0.37	1/2	6	327	4.1	652	11.1	652	10.6
J740D	1 1/4"	0.56	1/2	9	396	4.8	721	12.4	721	11.8
J1040D	1 1/4"	0.75	1	12	466	5.4	816	14.1	791	13.0
J1540D	1 1/4"	1.10	1 1/2	19	618	7.0	1003	17.3	968	15.7
J2040MD	1 1/4"	1.50	2	24	736	8.6	1156	20.6	1121	19.0
J3040MD	1 1/4"	2.20	3	38	1075	12.7	1545	26.9	1495	24.7
J760D	1 1/4"	0.55	3/4	6	352	4.3	677	11.9	677	11.3
J1060D	1 1/4"	0.75	1	9	431	5.0	781	13.7	756	12.6
J1560D	1 1/4"	1.10	1 1/2	13	537	5.9	922	16.2	887	14.6
J2060MD	1 1/4"	1.50	2	17	646	7.3	1066	19.3	1031	17.7
J3060MD	1 1/4"	2.20	3	27	929	10.9	1399	25.1	1349	22.9
J1080D	2"	0.75	1	8	513	6.1	863	14.8	838	13.7
J1580D	2"	1.10	1 1/2	11	665	7.6	1050	17.9	1015	16.3
J2080MD	2"	1.50	2	15	819	9.1	1239	21.1	1204	19.5
J3080MD	2"	2.20	3	23	1128	12.2	1598	26.4	1548	24.2
J15110D	2"	1.10	1 1/2	8	618	8.2	1003	18.5	968	16.9
J20110D	2"	1.50	2	11	761	10.0	1181	22.0	1146	20.4
J30110D	2"	2.20	3	17	1040	13.7	1510	27.9	1460	25.7
J50110D	2"	3.70	5	28	1554	28.5	2134	50.5	1974	40.5
J15160D	2"	1.10	1 1/2	7	652	7.6	1037	17.9	1002	16.3
J20160D	2"	1.50	2	10	838	9.4	1258	21.4	1223	19.8
J30160D	2"	2.20	3	15	1148	12.5	1618	26.7	1568	24.5
J50160D	2"	3.70	5	25	1765	27.6	2345	49.6	2185	39.6
J20250D	2"	1.50	2	8	943	9.0	1363	21.0	1328	19.4
J30250D	2"	2.20	3	12	1293	20.0	1763	34.2	1713	32.0
J50250D	2"	3.70	5	21	2080	27.2	2660	49.2	2500	39.2

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (25 lpm models)



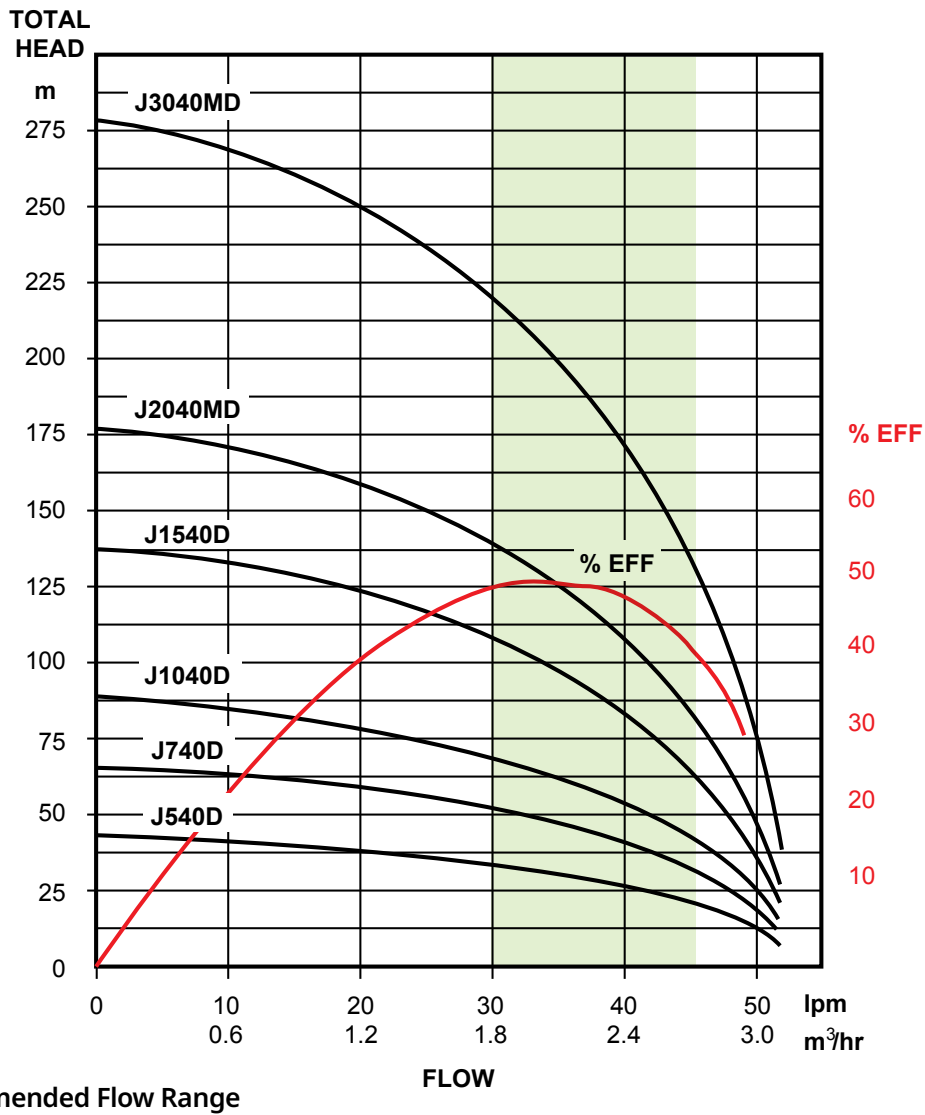
### Recommended Flow Range

#### 25 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR				
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J525D	0.37	230V - 2W	KDJ525D21E	DME1037W2	*	31264	KDJ525D21	DM1037W2	*	31264
		230V - 3W	KDJ525D31E	DME1037	20200070	31263	KDJ525D31	DM1037	14020015	31263
		415V	KDJ525D33E	DME3037	*	31263	KDJ525D33	DM3037	*	31263
J725D	0.55	230V - 2W	KDJ725D21E	DME1055W2	*	31264	KDJ725D21	DM1055W2	*	31264
		230V - 3W	KDJ725D31E	DME1055	20200080	31263	KDJ725D31	DM1055	14020035	31263
		415V	KDJ725D33E	DME3055	*	31263	KDJ725D33	DM3055	*	31263
J1025D	0.75	230V - 2W	KDJ1025D21E	DME1075W2	*	31264	KDJ1025D21	DM1075W2	*	31264
		230V - 3W	KDJ1025D31E	DME1075	20200090	31263	KDJ1025D31	DM1075	14020055	31263
		415V	KDJ1025D33E	DME3075	*	31263	KDJ1025D33	DM3075	*	31263
J1525D	1.10	230V - 2W	KDJ1525D21E	*	*	31264	KDJ1525D21	DM1110W2	*	31264
		230V - 3W	KDJ1525D31E	DME1110	20200100	31263	KDJ1525D31	DM1110	14020075	31263
		415V	KDJ1525D33E	DME3110	*	31263	KDJ1525D33	DM3110	*	31263
J2025D	1.50	230V - 3W	KDJ2025D31E	DME1150	20200115	31263	KDJ2025D31	DM1150	14020090	31263
		415V	KDJ2025D33E	DME3150	*	31263	KDJ2025D33	DM3150	*	31263

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (40 lpm models)

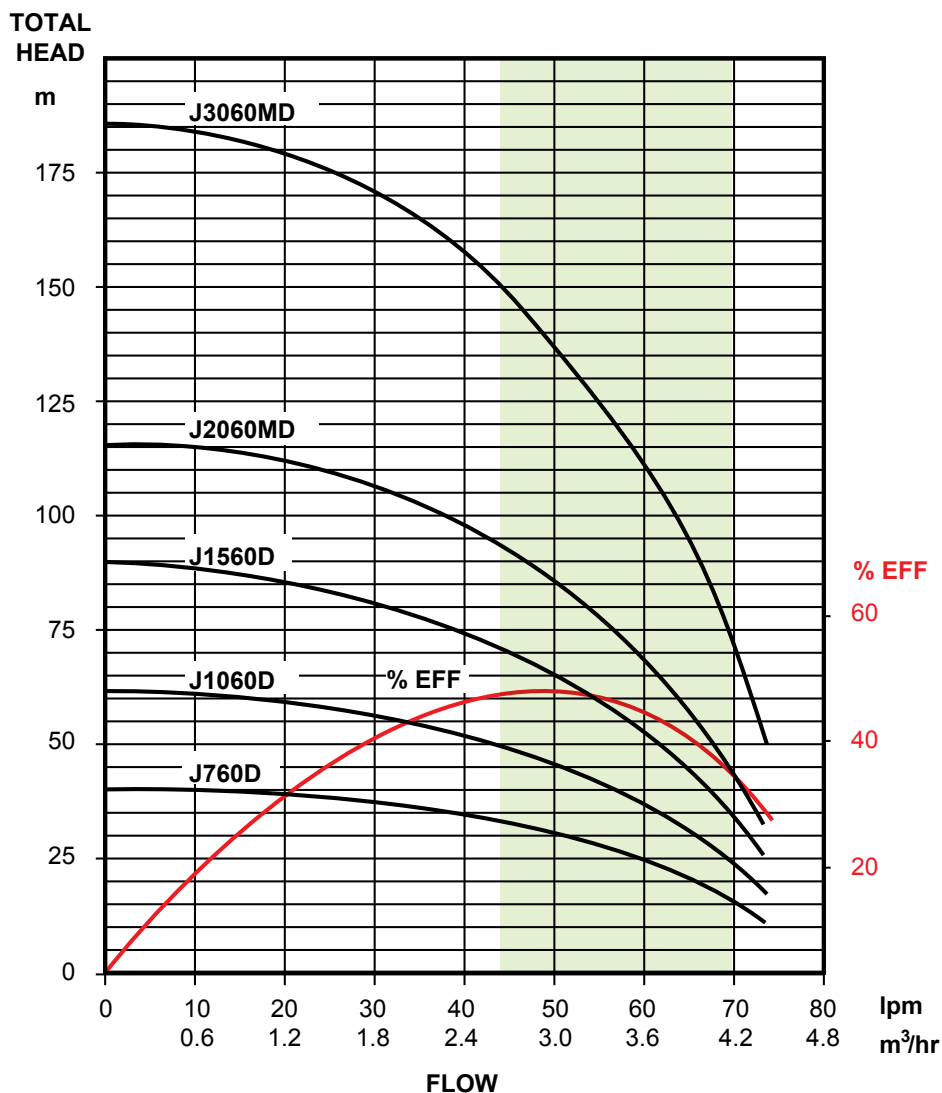


### 40 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR				
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J540D	0.37	230V - 2W	KDJ540D21E	DME1037W2	*	31264	KDJ540D21	DM1037W2	*	31264
		230V - 3W	KDJ540D31E	DME1037	20200070	31263	KDJ540D31	DM1037	14020015	31263
		415V	KDJ540D33E	DME3037	*	31263	KDJ540D33	DM3037	*	31263
J740D	0.55	230V - 2W	KDJ740D21E	DME1055W2	*	31264	KDJ740D21	DM1055W2	*	31264
		230V - 3W	KDJ740D31E	DME1055	20200080	31263	KDJ740D31	DM1055	14020035	31263
		415V	KDJ740D33E	DME3055	*	31263	KDJ740D33	DM3055	*	31263
J1040D	0.75	230V - 2W	KDJ1040D21E	DME1075W2	*	31264	KDJ1040D21	DM1075W2	*	31264
		230V - 3W	KDJ1040D31E	DME1075	20200090	31263	KDJ1040D31	DM1075	14020055	31263
		415V	KDJ1040D33E	DME3075	*	31263	KDJ1040D33	DM3075	*	31263
J1540D	1.10	230V - 2W	KDJ1540D21E	*	*	31264	KDJ1540D21	DM1110W2	*	31264
		230V - 3W	KDJ1540D31E	DME1110	20200100	31263	KDJ1540D31	DM1110	14020075	31263
		415V	KDJ1540D33E	DME3110	*	31263	KDJ1540D33	DM3110	*	31263
J2040MD	1.50	230V - 3W	KDJ2040D31E	DME1150	20200115	31263	KDJ2040D31	DM1150	14020090	31263
		415V	KDJ2040D33E	DME3150	*	31263	KDJ2040D33	DM3150	*	31263
J3040MD	2.20	230V - 3W	KDJ3040D31E	DME1220	20200130	31263	KDJ3040D31	DM1220	14020095	31263
		415V	KDJ3040D33E	DME3220	*	31263	KDJ3040D33	DM3220	*	31263

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (60 lpm models)



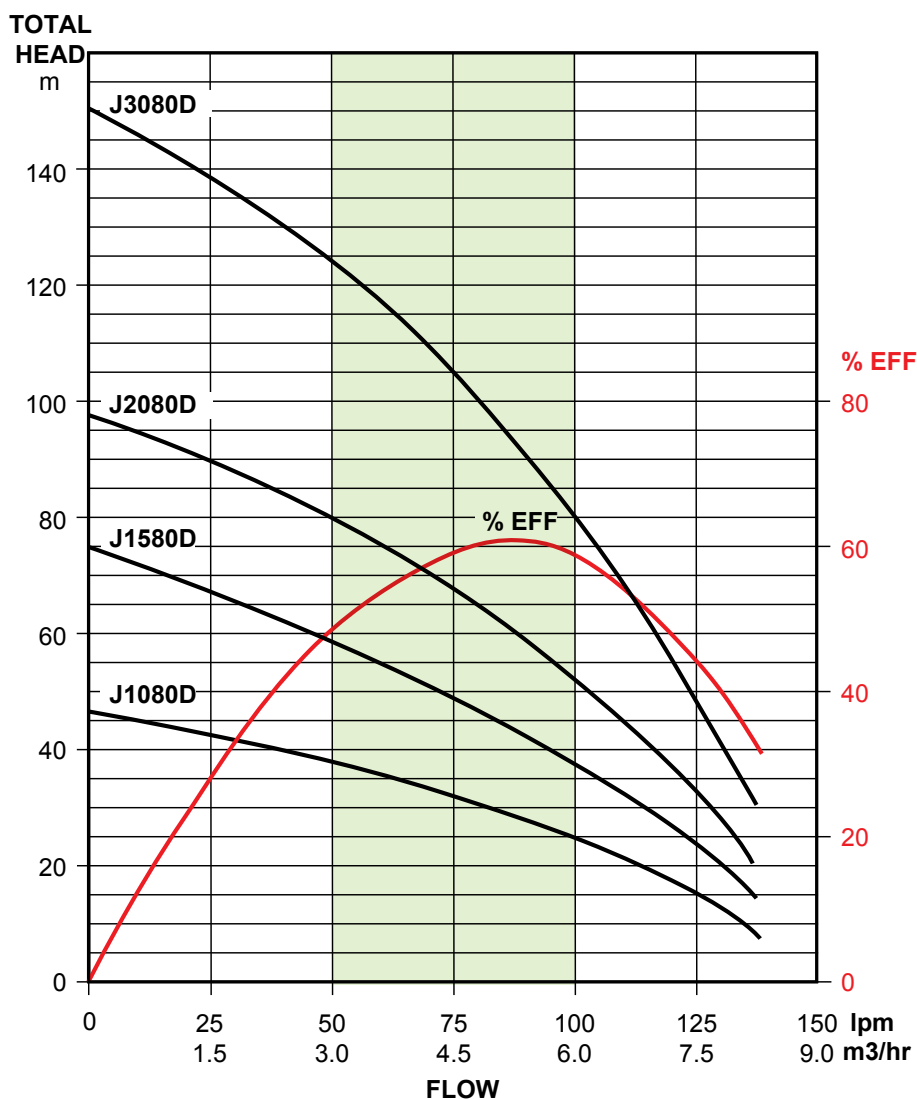
Recommended Flow Range

### 60 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR			
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J760D	0.55	230V - 2W	KDJ760D21E	DME1055W2	*	31264	KDJ760D21	DM1055W2	*	31264
		230V - 3W	KDJ760D31E	DME1055	20200080	31263	KDJ760D31	DM1055	14020035	31263
		415V	KDJ760D33E	DME3055	*	31263	KDJ760D33	DM3055	*	31263
J1060D	0.75	230V - 2W	KDJ1060D21E	DME1075W2	*	31264	KDJ1060D21	DM1075W2	*	31264
		230V - 3W	KDJ1060D31E	DME1075	20200090	31263	KDJ1060D31	DM1075	14020055	31263
		415V	KDJ1060D33E	DME3075	*	31263	KDJ1060D33	DM3075	*	31263
J1560D	1.10	230V - 2W	KDJ1560D21E	*	*	31264	KDJ1560D21	DM1110W2	*	31264
		230V - 3W	KDJ1560D31E	DME1110	20200100	31263	KDJ1560D31	DM1110	14020075	31263
		415V	KDJ1560D33E	DME3110	*	31263	KDJ1560D33	DM3110	*	31263
J2060MD	1.50	230V - 3W	KDJ2060D31E	DME1150	20200115	31263	KDJ2060D31	DM1150	14020090	31263
		415V	KDJ2060D33E	DME3150	*	31263	KDJ2060D33	DM3150	*	31263
J3060MD	2.20	230V - 3W	KDJ3060D31E	DME1220	20200130	31263	KDJ3060D31	DM1220	14020095	31263
		415V	KDJ3060D33E	DME3220	*	31263	KDJ3060D33	DM3220	*	31263

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (80 lpm models)



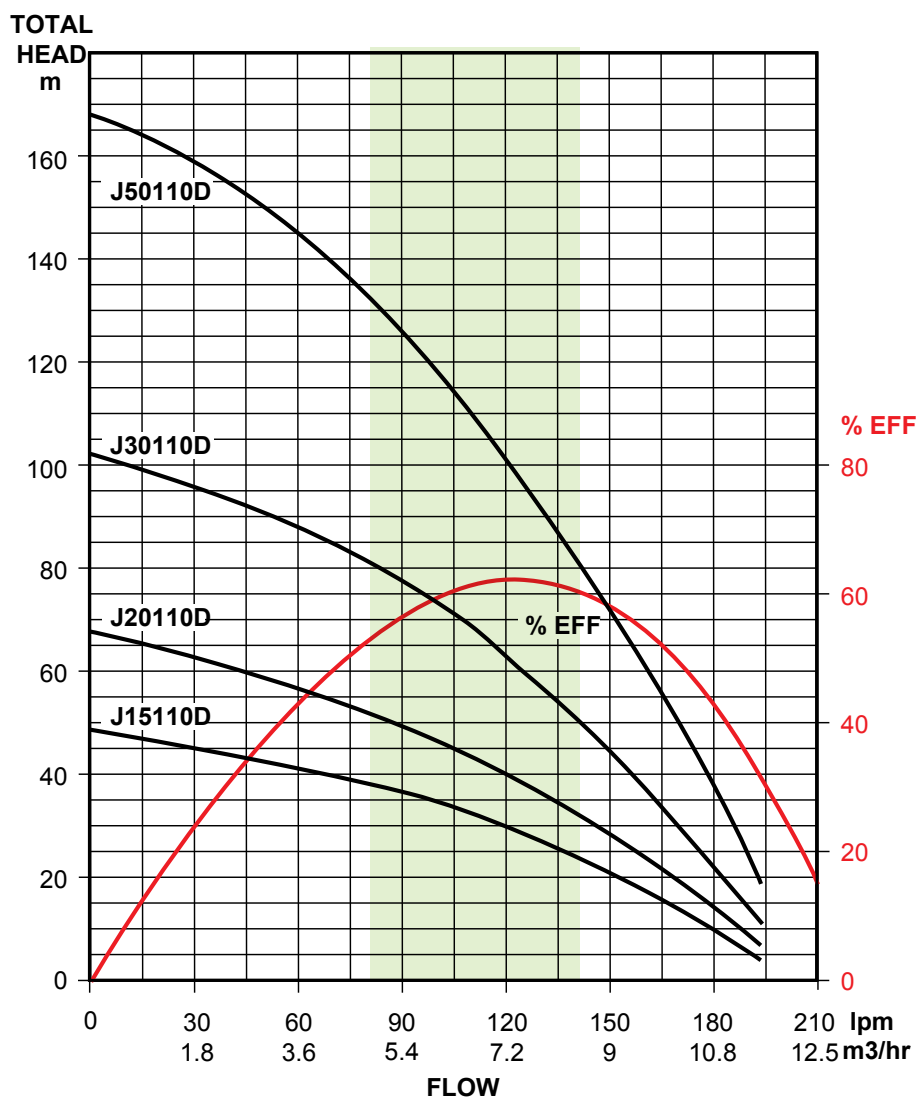
**Recommended Flow Range**

### 80 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR			
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J1080D	0.75	230V - 2W	KDJ1080D21E	DME1075W2	*	31264	KDJ1080D21	DM1075W2	*	31264
		230V - 3W	KDJ1080D31E	DME1075	20200090	31263	KDJ1080D31	DM1075	14020055	31263
		415V	KDJ1080D33E	DME3075	*	31263	KDJ1080D33	DM3075	*	31263
J1580D	1.10	230V - 2W	KDJ1580D21E	*	*	31264	KDJ1580D21	DM1110W2	*	31264
		230V - 3W	KDJ1580D31E	DME1110	20200100	31263	KDJ1580D31	DM1110	14020075	31263
		415V	KDJ1580D33E	DME3110	*	31263	KDJ1580D33	DM3110	*	31263
J2080D	1.50	230V - 3W	KDJ2080D31E	DME1150	20200115	31263	KDJ2080D31	DM1150	14020090	31263
		415V	KDJ2080D33E	DME3150	*	31263	KDJ2080D33	DM3150	*	31263
J3080D	2.20	230V - 3W	KDJ3080D31E	DME1220	20200130	31263	KDJ3080D31	DM1220	14020095	31263
		415V	KDJ3080D33E	DME3220	*	31263	KDJ3080D33	DM3220	*	31263

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (110 lpm models)



**Recommended Flow Range**

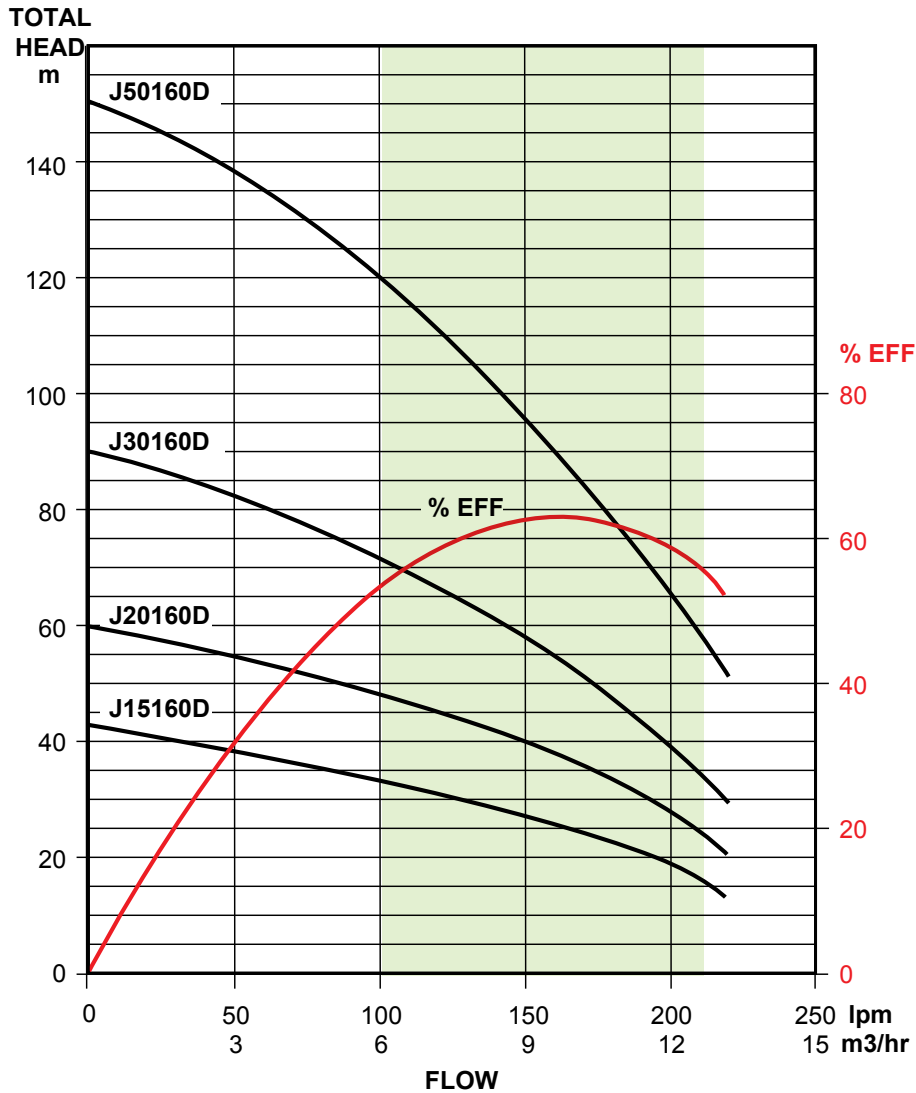
### 110 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR			
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J15110D	1.10	230V - 2W	KDJ15110D21E	*	*	31264	KDJ15110D21	DM1110W2	*	31264
		230V - 3W	KDJ15110D31E	DME1110	20200100	31263	KDJ15110D31	DM1110	14020075	31263
		415V	KDJ15110D33E	DME3110	*	31263	KDJ15110D33	DM3110	*	31263
J20110D	1.50	230V - 3W	KDJ20110D31E	DME1150	20200115	31263	KDJ20110D31	DM1150	14020090	31263
		415V	KDJ20110D33E	DME3150	*	31263	KDJ20110D33	DM3150	*	31263
J30110D	2.20	230V - 3W	KDJ30110D31E	DME1220	20200115	31263	KDJ30110D31	DM1220	14020095	31263
		415V	KDJ30110D33E	DME1320	*	31263	KDJ30110D33	DM1320	*	31263
J50110D	3.70	230V - 3W	KDJ50110D31E	DME1370	20200060	31263	KDJ50110D31	DM1370	20200060 <sup>†</sup>	31263
		415V	KDJ50110D33E	DME3400	*	31263	KDJ50110D33	DM3400	*	31263

<sup>†</sup> Note: The 3.7kW control box (20200060) is CSCR.

# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (160 lpm models)



Recommended Flow Range

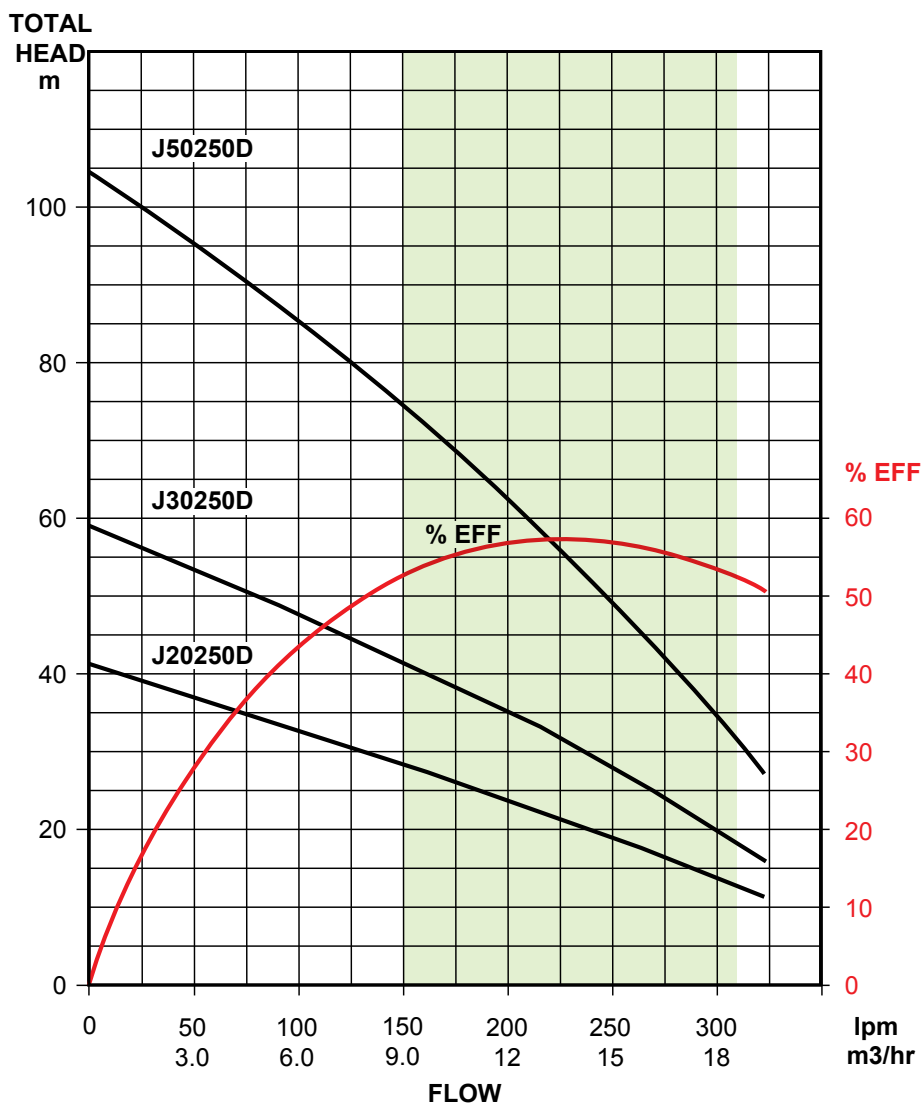
160 lpm Models			DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR			
Pump Type	kW	Motor	Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J15160D	1.10	230V - 2W	KDJ15160D21E	*	*	31264	KDJ15160D21	DM1110W2	*	31264
		230V - 3W	KDJ15160D31E	DME1110	20200100	31263	KDJ15160D31	DM1110	14020075	31263
		415V	KDJ15160D33E	DME3110	*	31263	KDJ15160D33	DM3110	*	31263
D20160D	1.50	230V - 3W	KDJ20160D31E	DME1150	20200115	31263	KDJ20160D31	DM1150	14020090	31263
		415V	KDJ20160D33E	DME3150	*	31263	KDJ20160D33	DM3150	*	31263
J30160D	2.20	230V - 3W	KDJ30160D31E	DME1220	20200115	31263	KDJ30160D31	DM1220	14020095	31263
		415V	KDJ30160D33E	DME1320	*	31263	KDJ30160D33	DM1320	*	31263
J50160D	3.70	230V - 3W	KDJ50160D31E	DME1370	20200060	31263	KDJ50160D31	DM1370	20200060†	31263
		415V	KDJ50160D33E	DME3400	*	31263	KDJ50160D33	DM3400	*	31263

† Note: The 3.7kW control box (20200060) is CSCR.



# Submersible Borehole Pumps and Motors

## HYDRAULIC PERFORMANCE (250 lpm models)



 Recommended Flow Range

### 250 lpm Models

Pump Type	kW	Motor	DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR			
			Pump, Motor, and Control Box Kit	DME Motor	Control Box – CSCR	Cable Splice Kit	Pump, Motor, and Control Box Kit	DM Motor	Control Box – PSC	Cable Splice Kit
J20250D	1.50	230V - 3W	KDJ20250D31E	DME1150	20200115	31263	KDJ20250D31	DM1150	14020090	31263
		415V	KDJ20250D33E	DME3150	*	31263	KDJ20250D33	DM3150	*	31263
J30250D	2.20	230V - 3W	KDJ30250D31E	DME1220	20200115	31263	KDJ30250D31	DM1220	14020095	31263
		415V	KDJ30250D33E	DME1320	*	31263	KDJ30250D33	DM1320	*	31263
J50250D	3.70	230V - 3W	KDJ50250D31E	DME1370	20200060	31263	KDJ50250D31	DM1370	20200060 <sup>†</sup>	31263
		415V	KDJ50250D33E	DME3400	*	31263	KDJ50250D33	DM3400	*	31263

<sup>†</sup> Note: The 3.7kW control box (20200060) is CSCR.

# Submersible Borehole Pumps and Motors

## DAVEY MOTORS

Davey offer a choice of submersible borehole motors. The DME range of encapsulated canned type motors and the DM range of rewindable oil filled motors.

Selecting the best motor for a particular application means considering not only the immediate up front purchase price but taking into consideration the motor's long term ability to support the pump over the entire operating range and its ability to operate at the required water temperature and velocity presented by the installation.

Like other quality submersible motors, the DME and DM models are designed purely for operation in and under water and depends on the surrounding water to carry away the heat that the motor generates.

The most common cause of failure in a submersible motor is overheating so making the correct assessment before selection and installation is critical. This should as a minimum involve checking the ambient water temperature, the velocity in the borehole, the actual

supply voltage and the likelihood of voltage surges and spikes.

When replacing a motor it is always good practice to check out that the initial installation was carried out correctly and that there are no evidence of excessive hydraulic load, an oversized, or wrongly size pump fitted to the motor and that there is no over frequency in the installation.

The Davey DME and DM submersible motors are robust motors based on technology proven worldwide for reliable and long operation. By making a correct assessment of the installation, an experienced Davey Dealer can help make sure the most suitable motor is chosen so that long term the owner avoids having to pay extra for motor failure, extended down times, repeat repairs and higher maintenance cost.

The robust and strong design of the Davey DM motor makes it the recommended choice where installations may experience high voltage drops or potential high overloading. It is rewindable and serviceable.

MOTOR OPERATING LIMITS	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR		
	230V - 2 Wire	230V - 3 Wire	3 Phase	230V - 2 Wire	230V - 3 Wire	3 Phase
Horizontal installation	✓	up to 5.5kW	up to 5.5kW	✓	✓	✓
Maximum immersion depth	150m	150m	150m	150m	150m	150m
Maximum water temperature	35°C	35°C	35°C	35°C	35°C	35°C
Liquid pH range	5.8<x>8.6	5.8<x>8.6	5.8<x>8.6	5.8<x>8.6	5.8<x>8.6	5.8<x>8.6
Maximum starts per hour	30	30	30	30	30	30
Voltage tolerance ±	-10%	-10%	-10%	-10%	-10%	5.8<x>8.6

### TYPE KEY: MOTORS

Example		K	D	M	E	I	0	7	5
Product Figuration	Complete Motor and Control box	X							
Motor Type	DM Rewindable DME Encapsulated		X	X	X				
Phase	1 or 3					X			
kW	0.37 to 7.50						X	X	X
Wire	2W = 3 wire + Earth W2 = 2 wire + Earth								X

## 230V – 2 wire

Single Phase

kw	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR		
	Motor and Control Box KIT	Motor	Control Box – CSCR	Motor and Control Box KIT	Motor	Control Box – PSC
0.37	*	DME1037W2	*	*	DM1037W2	*
0.55	*	DME1055W2	*	*	DM1055W2	*
0.75	*	DME1075W2	*	*	DM1075W2	*
1.10	*	*	*	*	DM1110W2	*

## 230V – 3 wire

Single Phase

kw	DME – ENCAPSULATED MOTOR				DM – REWINDABLE MOTOR		
	Motor and Control Box KIT	Motor	Control Box – CSCR	Control Box – CSCR Metal	Motor and Control Box KIT	Motor	Control Box – PSC
0.37	KDME1037	DME1037	20200070	20200200	KDM1037	DM1037	14020015
0.55	KDME1055	DME1055	20200080	20200220	KDM1055	DM1055	14020035
0.75	KDME1075	DME1075	20200090	20200240	KDM1075	DM1075	14020055
1.10	KDME1110	DME1110	20200100	20200260	KDM1110	DM1110	14020075
1.50	KDME1150	DME1150	20200115	20200280	KDM1150	DM1150	14020090
2.20	KDME1220	DME1220	20200130	20200300	KDM1220	DM1220	14020095
3.70	KDME1370	DME1370	20200060	20200320	KDM1370	DM1370	20200060

## 415V

3 Phase

kw	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR		
	Motor and Control Box KIT	Motor	Control Box – CSCR	Motor and Control Box KIT	Motor	Control Box – PSC
0.37	*	DME3037	*	*	DM3037	*
0.55	*	DME3055	*	*	DM3055	*
0.75	*	DME3075	*	*	DM3075	*
1.10	*	DME3110	*	*	DM3110	*
1.50	*	DME3150	*	*	DM3150	*
2.20	*	DME3220	*	*	DM3220	*
3.70	*	*	*	*	*	*
4.00	*	DME3400	*	*	DM3400	*
5.50	*	DME3550	*	*	DM3550	*
7.50	*	*	*	*	DM3750	*

# Submersible Borehole Pumps and Motors

## CONTROL BOXES

Davey offer DME and DM motors in both 230V – 2 wire, 230V – 3 wire and 415V to give the customers the widest range of options to suit their specific installation.

Most small domestic appliances in Australia and New Zealand use single phase AC power supply making the 230V-2 or 3 wire models for many the obvious choice. However, it is important to keep in mind that the three phase motor has several inherent advantages including a lower current draw per phase, an ability to create more torque, and smoother running than single phase motors.

Single phase motors are simple in construction, durable and generally maintenance free in operation but single phase motors are not self-starting so require either an in-built or external starter. The Davey DME and DM single phase 2 wire motors have in-built starters while the 3 wire models require an external starter box.

The recommended starting method for the DME models are Capacitor start /Capacitor run (CSCR) while for the DM models (except 3.7kw) the control box is the Permanent Split Capacitor design (PSC).

The use of the CSCR control boxes makes the DME motors ideal for certain applications because the start capacitor offers high starting torque, while the run type capacitor balances the motor which results in a smooth operation meaning that the motor can better handle breakdown or overload torque. Metal enclosure control boxes, with a protection rating of IP24, are also available for the DME motors.

The Permanent Split Capacitor design (PSC) Control box is recommend with the DM models (except for the 3.7kW which require the CSCR control box). In this control box the capacitor is set in series during starting and running which generally means lower torque but also much lower starting currents. Combining these features make the PCS control box and the DM motors the recommended choice in demanding installations where there is risk of high voltage drops or potential overloading.

### Manual-Off-Auto Control Box

- Providing Manual-off-Auto control in an IP56 enclosure.
- Three phase boxes include adjustable thermal overloads
- Run light, surge arrestors and a 240 volt control circuit for pressure, float or similar switch.
- Overloads must be set to suit motor.  
Check amp rating for each motor as amp rating changes depending on type and brand of motor.

Model	Amps	Phase	To suit Davey 4" Motor
FSB221		Single	Up to 2.2kW
CB3075	1.6 – 2.4	Three	0.55 & 0.75kW
CB3150	2.4 – 4.0	Three	1.1 & 1.5kW
CB3220	4.0 – 6.0	Three	1.5 & 2.2kW
CB3750	10.0 – 16.0	Three	4.0 & 5.5kW

### Davey Fanox Motor Protection Control Panel

- Suitable for single phase up to 2.2kW and three phase up to 4kW
- Plastic case with transparent lid
- Dimensions: 230mm x 250mm x 150mm

Model	Phase	Approx. Motor Current (A)	Adj. Well Filling Time (min)	Protection
CBM2	1	3.0 - 11.0	2 - 70	- Dry running protection
CBM3	1	3.0 - 16.0	2 - 240	- Thermal memory that memorises motor cycles
CBT1	3	1.1 - 2.0	2 - 75	- Automatic Reset for well filling
CBT2	3	2.8 - 3.8	2 - 75	- Indicates cause of tripping
CBT3	3	5.5 - 9.5	2 - 75	- Short Circuit protection



CSCR starter box



PSC starter box

## ELECTRICAL DATA – DROP CABLE

Single Phase: 240V 50Hz 2 Wire and 3 Wire Motors						
Motor kW	Cable size in mm <sup>2</sup> (3 core plus earth)					
	1.5	2.5	4	6	10	16
0.37	75	125				
0.55	57	95	152			
0.75	45	75	120	174		
1.1	33	53	85	127	210	
1.5	23	38	63	92	154	246
2.2		28	45	67	112	180
3.7			30	45	75	125

Three Phase: 415V 50Hz Motors						
Motor kW	Cable size in mm <sup>2</sup> (3 core plus earth)					
	1.5	2.5	4	6	10	16
0.37						
0.55	246					
0.75	200	333				
1.1	146	244	390			
1.5	109	180	290	435		
2.2	78	130	207	310	516	
3.7	62	104	167	250	416	
4	46	77	124	186	310	496
5.5	33	56	90	135	225	360
7.5			66	100	165	270

MOTOR FEATURES	DME – ENCAPSULATED MOTOR			DM – REWINDABLE MOTOR		
	230V - 2 Wire	230V - 3 Wire	3 Phase	230V - 2 Wire	230V - 3 Wire	3 Phase
Quick maintenance and easy to rewind	Stator filled with special epoxy resin and hermetically encapsulated			✓		
Lubrication of rotor and bearings	Water mixed with Polypropylene Glycol			FDA Approved Food Grade with high thermal capacity		
Mechanical Seal	N/A			Hard face - Silicon Carbide / Ceramic		
Sand slinger protection	✓	✓	✓	✓	✓	✓
Nema Motor to Pump Coupling	✓	✓	✓	✓	✓	✓
Replacable Motor leads	✓	✓	✓	✓	✓	✓
Motor casing	304 stainless steel			304 stainless steel		
Upper bracket	Cast iron w/304 stainless steel cover			Cast iron/ nickel plated		
In-built lightning arrestor	✓					
In-built thermal overload protection	✓			✓		

# Single Stage Engine Driven Pump

DME - ENCAPSULATED MOTOR SPECIFICATIONS																	
Part No.	Motor Size kW	Diameter Nom mm	Run Amps	Start Amps	Efficiency @ Full Load	RPM	Cos	Ts/Tn PSC	R (main) Ω	R (aux.) Ω	C run μF	C start μF	Thrust N	Mechanical Seal	Weight Kg	Length mm	Cable m
<b>2 Wire, Single Phase</b>																	
DME1037W2	0.37	96	4.4	26.0	58%	2850	0.70	0.85	7.48	*	*	*	1500	Hard Face - Sic/Al	7.5	260	1.75
DME1055W2	0.55	96	5.9	35.0	58%	2860	0.72	0.81	5.07	*	*	*	1500	Hard Face - Sic/Al	8.8	285	1.75
DME1075W2	0.75	96	7.8	49.0	58%	2860	0.72	0.82	3.60	*	*	*	1500	Hard Face - Sic/Al	11.4	305	1.75
<b>3 Wire, Single Phase</b>																	
DME1037	0.37	96	3.4	11.0	54%	2850	0.90	0.70	8.19	15.40	16	36 - 46	1500	Hard Face - Sic/Al	6.8	250	1.75
DME1055	0.55	96	4.4	16.6	62%	2840	0.88	0.63	6.09	14.59	20	72 - 86	1500	Hard Face - Sic/Al	8.1	265	1.75
DME1075	0.75	96	6.0	23.1	63%	2860	0.86	0.65	4.04	9.39	30	88 - 106	1500	Hard Face - Sic/Al	10.6	295	1.75
DME1110	1.10	96	7.8	29.6	68%	2850	0.90	0.62	2.95	7.20	40	88 - 106	3000	Hard Face - Sic/Al	11.2	340	1.75
DME1150	1.50	96	10.5	39.3	65%	2850	0.96	0.60	2.30	5.15	50	130 - 156	3000	Hard Face - Sic/Al	14.0	375	1.75
DME1220	2.20	96	15.0	52.5	72%	2850	0.92	0.55	1.70	3.50	70	189 - 227	3000	Hard Face - Sic/Al	16.4	430	2.50
DME1370	3.70	96	25.3	102.0	70%	2840	0.92	0.50	1.00	1.90	100	189 - 227	6500	Hard Face - Sic/Al	29.3	675	4.00
<b>3 Phase</b>																	
DME3037	0.37	96	1.3	5.3	62%	2840	0.72	2.16	39.70	*	*	*	1500	Hard Face - Sic/Al	5.8	235	1.75
DME3055	0.55	96	1.7	7.2	66%	2840	0.71	2.50	27.60	*	*	*	1500	Hard Face - Sic/Al	7.0	250	1.75
DME3075	0.75	96	2.2	9.2	67%	2840	0.73	1.90	24.00	*	*	*	1500	Hard Face - Sic/Al	8.3	265	1.75
DME3110	1.10	96	3.0	14.2	72%	2840	0.74	2.30	15.00	*	*	*	3000	Hard Face - Sic/Al	10.9	295	1.75
DME3150	1.50	96	4.0	18.5	72%	2830	0.75	2.10	13.70	*	*	*	3000	Hard Face - Sic/Al	11.4	340	1.75
DME3220	2.20	96	5.6	26.5	74%	2830	0.77	2.40	7.80	*	*	*	3000	Hard Face - Sic/Al	14.2	375	2.50
DME3400	4.00	96	10.6	44.0	69%	2840	0.79	2.30	4.00	*	*	*	6500	Hard Face - Sic/Al	23.4	555	2.50
DME3550	5.50	96	13.6	62.0	72%	2840	0.82	2.20	3.30	*	*	*	6500	Hard Face - Sic/Al	29.4	675	4.00
DME3750	7.50	96	18.3	90.0	75%	2830	0.79	2.20	2.20	*	*	*	6500	Hard Face - Sic/Al	33.8	765	4.00

NOTE: 3 wire, single phase motors require a starter box. 3 phase motor must be connected with an M10 rated overload.

DM - REWINDABLE MOTOR SPECIFICATIONS																	
Part No.	Motor Size kW	Diameter Nom mm	Run Amps	Start Amps	Efficiency @ Full Load	RPM	Cos	Ts/Tn	R (main) Ω	R (aux.) Ω	C start μF	Thrust N	Mechanical Seal	Weight Kg	Length mm	Cable m	
<b>2 Wire, Single Phase</b>																	
DM1037W2	0.37	96	3.9	10.2	46%	2860	0.93	1.20	8.73	*	20	1500	Hard Face - Sic/Al	7.0	325	1.75	
DM1055W2	0.55	96	4.8	13.6	55%	2820	0.86	0.70	6.88	*	25	1500	Hard Face - Sic/Al	7.6	325	1.75	
DM1075W2	0.75	96	6.0	18.5	57%	2830	0.95	0.70	4.49	*	30	1500	Hard Face - Sic/Al	8.7	350	1.75	
DM1110W2	1.10	96	7.5	26.0	70%	2820	0.86	0.60	3.44	*	30	1500	Hard Face - Sic/Al	10.3	385	1.75	
<b>3 Wire, Single Phase</b>																	
DM1037	0.37	96	3.4	10.8	53%	2860	0.94	1.0	8.70	18.35	20	1500	Hard Face - Sic/Al	7.0	325	1.75	
DM1055	0.55	96	4.2	13.9	60%	2855	0.92	0.87	6.48	11.30	25	1500	Hard Face - Sic/Al	7.6	325	1.75	
DM1075	0.75	96	5.6	18.5	62%	2855	0.92	0.67	4.64	8.08	35	1500	Hard Face - Sic/Al	8.7	350	1.75	
DM1110	1.10	96	7.8	23.0	66%	2855	0.98	0.65	3.21	6.30	40	1500	Hard Face - Sic/Al	10.3	385	1.75	
DM1150	1.50	96	10.3	38.7	68%	2855	0.88	0.55	2.32	4.50	60	1500	Hard Face - Sic/Al	12.0	420	1.75	
DM1220	2.20	96	14.6	43.5	69%	2820	0.94	0.48	1.82	3.26	80	1500	Hard Face - Sic/Al	14.2	470	2.50	
DM1370	3.70	96	24.0	125.0	72%	2820	0.91	0.50	0.97	1.89	80	4400	Hard Face - Sic/Al	22.0	580	4.00	
<b>3 Phase</b>																	
DM3037	0.37	96	1.3	6.2	60%	2840	0.72	2.90	35.89	*	*	1500	Hard Face - Sic/Al	6.5	325	1.75	
DM3055	0.55	96	1.9	8.5	62%	2830	0.71	3.10	28.60	*	*	1500	Hard Face - Sic/Al	7.0	325	1.75	
DM3075	0.75	96	2.4	10.9	66%	2830	0.71	3.10	19.79	*	*	1500	Hard Face - Sic/Al	7.6	325	1.75	
DM3110	1.10	96	3.2	14.0	73%	2820	0.70	3.20	14.30	*	*	1500	Hard Face - Sic/Al	8.7	350	1.75	
DM3150	1.50	96	4.4	17.0	73%	2820	0.70	3.10	9.82	*	*	1500	Hard Face - Sic/Al	10.4	385	1.75	
DM3220	2.20	96	5.8	25.0	75%	2820	0.78	3.10	6.93	*	*	1500	Hard Face - Sic/Al	12.0	420	2.50	
DM3400	4.00	96	9.8	49.0	76%	2825	0.82	3.00	3.86	*	*	2500	Hard Face - Sic/Al	15.3	468	2.50	
DM3550	5.50	96	13.5	57.0	78%	2820	0.85	3.00	2.81	*	*	2500	Hard Face - Sic/Al	18.6	538	3.00	
DM3750	7.50	96	19.0	77.0	79%	2820	0.80	3.20	2.09	*	*	4400	Hard Face - Sic/Al	27.0	810	4.00	

NOTE: 3 wire, single phase motors require a starter box. 3 phase motor must be connected with an M10 rated overload.

ALL data at standard AS/NZS voltages, i.e. 1Ø 230V 50Hz or 400V 50Hz