Equipment and solutions

BS4 Submersible Pump

Product technical datasheet

BS4 4" submersible pump for clean-water boreholes, JOVAL-made in Portugal.



FT-P029 · Rev. 2

BS4 4" submersible pump for clean-water boreholes, JOVAL-made in Portugal.

Applications

- Domestic water supply.
- Agricultural irrigation.
- Hydropneumatic systems.
- Clean water pumping.

Operating conditions

- Confirm the installation conditions, power supply and duty point before commissioning.

Engineering note	Confirm the installation conditions, power supply and duty point before commissioning.
Complementary equipment	Contact JOVAL for compatible accessories and equipment.
Resources and support	Pump selection guide · JOVAL technical support
Contact	+351 253 490 740 · joval@joval.pt

Technical specifications

Type

Submersible for Clean Water

Material

Radial turbines and diffusers in Noryl reinforced with fiberglass

Motor Details

Hermetically sealed electric motor impregnated with protective resin

Protection

IP 68

Insulation

Class F

Max Temperature

35° C

Max. sand content

50 g/m³

Discharge

1 1/4" - 2"

Voltage

230 V (1~) / 400 V (3~)

Frequency

50 Hz

Starts/Hour

20

Diameter

4" (98.5 mm)

Applications

- Domestic water supply.
- Agricultural irrigation.
- Hydropneumatic systems.
- Clean water pumping.

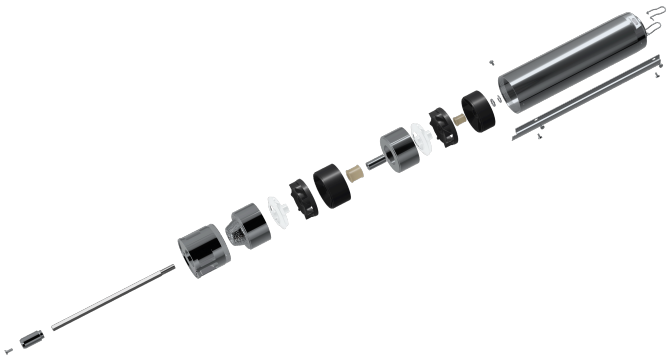
Operating conditions

- Confirm the installation conditions, power supply and duty point before commissioning.

Engineering note Confirm the installation conditions, power supply and duty point before commissioning.

List of materials

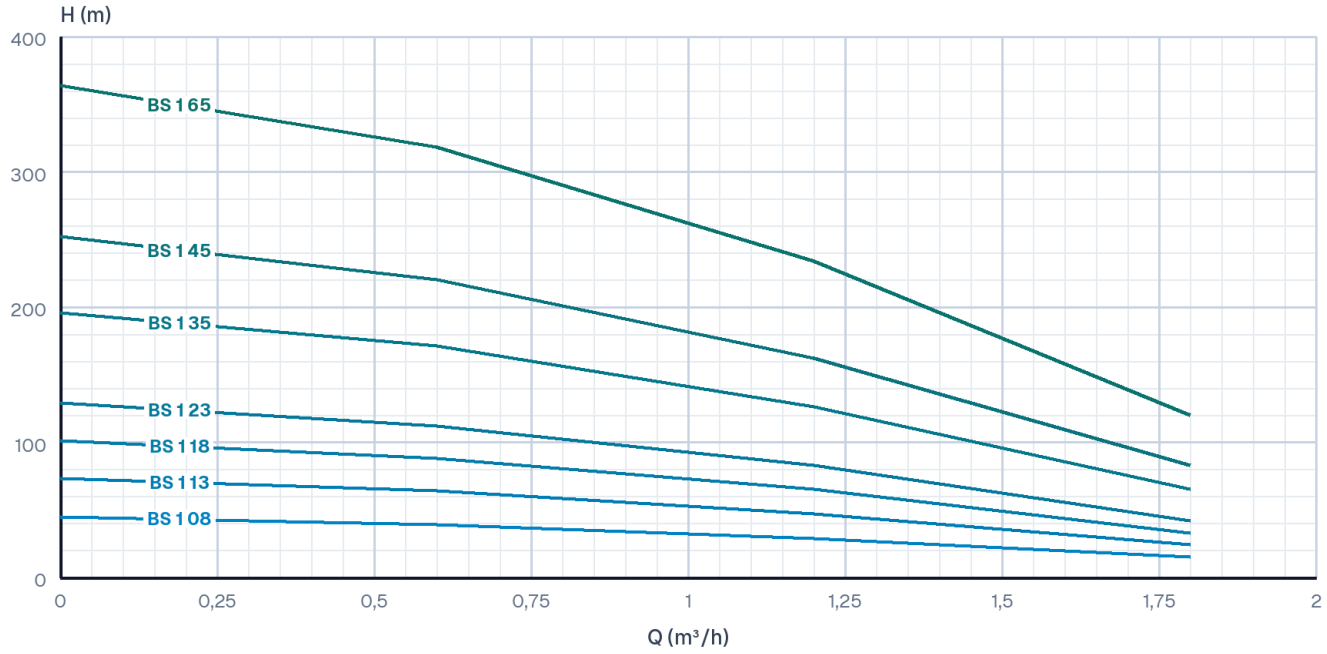
Materials



Pos.	Description	Material (Standard)
1	Screw A2 DIN 7985 M4 x 8	Stainless Steel
2	Stainless Steel Hook	Stainless Steel
3	Cable Guard	Stainless Steel
4	Jacket with Valve	Stainless Steel
5	Stainless Steel Circlip 8 mm	Stainless Steel
6	Washer A2 DIN 433 M10	Stainless Steel
7	Upper Guide G2D85	Noryl / Stainless Steel
8	Upper Guide Bushing	Rubber / Stainless Steel
9	Stainless Washer 0.5 x 35	Stainless Steel
10	Impeller	Noryl / Polycarbonate
11	Stainless Diffuser Cover	Stainless Steel
12	Diffuser	Noryl / Polycarbonate
13	Stainless Bushing 304 41x17.3	Stainless Steel 304
14	Central Guide Bushing	Rubber / Stainless Steel
15	Central Guide G1D85	Noryl / Stainless Steel
16	Easy-to-clean aspiration filter	Stainless Steel
17	Suction Chamber	Stainless Steel
18	Pump Shaft	Stainless Steel
19	Coupling 41.5 X 22	Stainless Steel
20	Screw A2 DIN 965 M6 x 16	Stainless Steel

BS 1 Series (Output 1 1/4")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 1 08	0,25	0,33	2,4 / -
BS 1 13	0,37	0,5	3,3 / 1,1
BS 1 18	0,55	0,75	4,3 / 1,5
BS 1 23	0,75	1	5,7 / 2,0

Model	kW	HP	A (230 / 400 V)
BS 1 35	1,1	1,5	8,4 / 2,8
BS 1 45	1,5	2	10,7 / 3,9
BS 1 65	2,2	3	14,7 / 5,5

BS 1 Series (Output 1 1/4")

Hydraulic performance

Total head H in metres

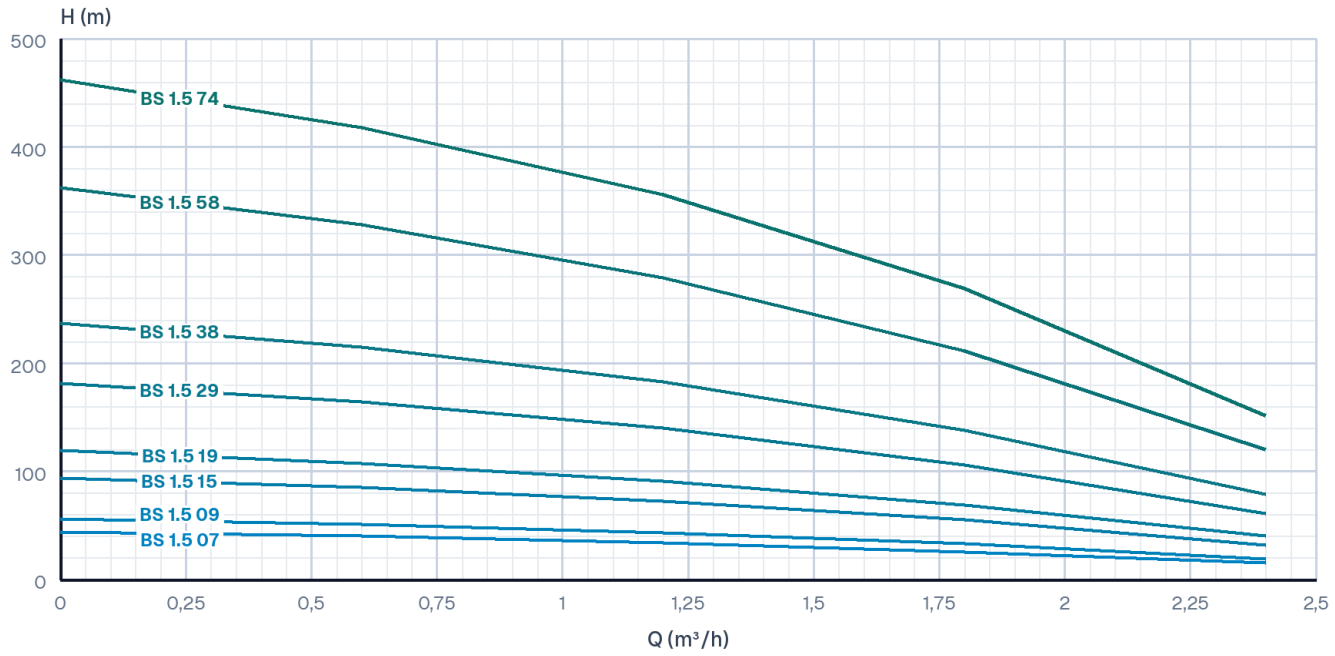
Q · Flow (m³/h)

Model	0	0,6	1,2	1,8
BS 1 08	45	39	29	15
BS 1 13	73	64	47	24
BS 1 18	101	88	65	33
BS 1 23	129	112	83	42
BS 1 35	196	171	126	65
BS 1 45	252	220	162	83
BS 1 65	364	318	234	120

Select the duty point at the intersection of Q and H.

BS 1.5 Series (Output 1 1/4")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 1.5 07	0,25	0,33	2,4 / -
BS 1.5 09	0,37	0,5	3,3 / 1,1
BS 1.5 15	0,55	0,75	4,3 / 1,5
BS 1.5 19	0,75	1	5,7 / 2,0

Model	kW	HP	A (230 / 400 V)
BS 1.5 29	1,1	1,5	8,4 / 2,8
BS 1.5 38	1,5	2	10,7 / 3,9
BS 1.5 58	2,2	3	14,7 / 5,5
BS 1.5 74	3	4	- / 7,5

BS 1.5 Series (Output 1 1/4")

Hydraulic performance

Total head H in metres

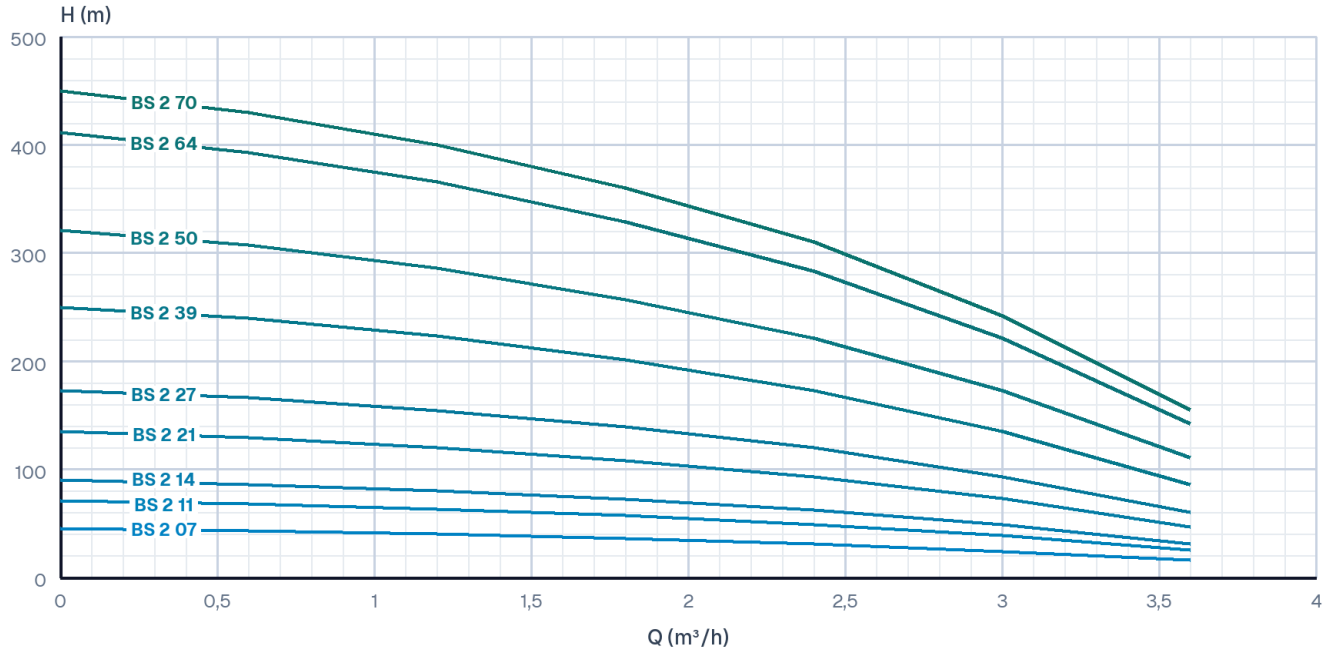
Q · Flow (m³/h)

Model	0	0,6	1,2	1,8	2,4
BS 1.5 07	44	40	34	25	15
BS 1.5 09	56	51	43	33	19
BS 1.5 15	94	85	72	55	32
BS 1.5 19	119	107	91	69	40
BS 1.5 29	181	164	140	106	61
BS 1.5 38	237	215	183	138	79
BS 1.5 58	362	328	279	211	120
BS 1.5 74	462	418	356	269	151

Select the duty point at the intersection of Q and H.

BS 2 Series (Output 1 1/4")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 2 07	0,37	0,5	3,3 / 1,1
BS 2 11	0,55	0,75	4,3 / 1,5
BS 2 14	0,75	1	5,7 / 2,0
BS 2 21	1,1	1,5	8,4 / 2,8
BS 2 27	1,5	2	10,7 / 3,9

Model	kW	HP	A (230 / 400 V)
BS 2 39	2,2	3	14,7 / 5,5
BS 2 50	3	4	- / 7,5
BS 2 64	3,7	5	- / 9,0
BS 2 70	4	5,5	- / 9,9

BS 2 Series (Output 1 1/4")

Hydraulic performance

Total head H in metres

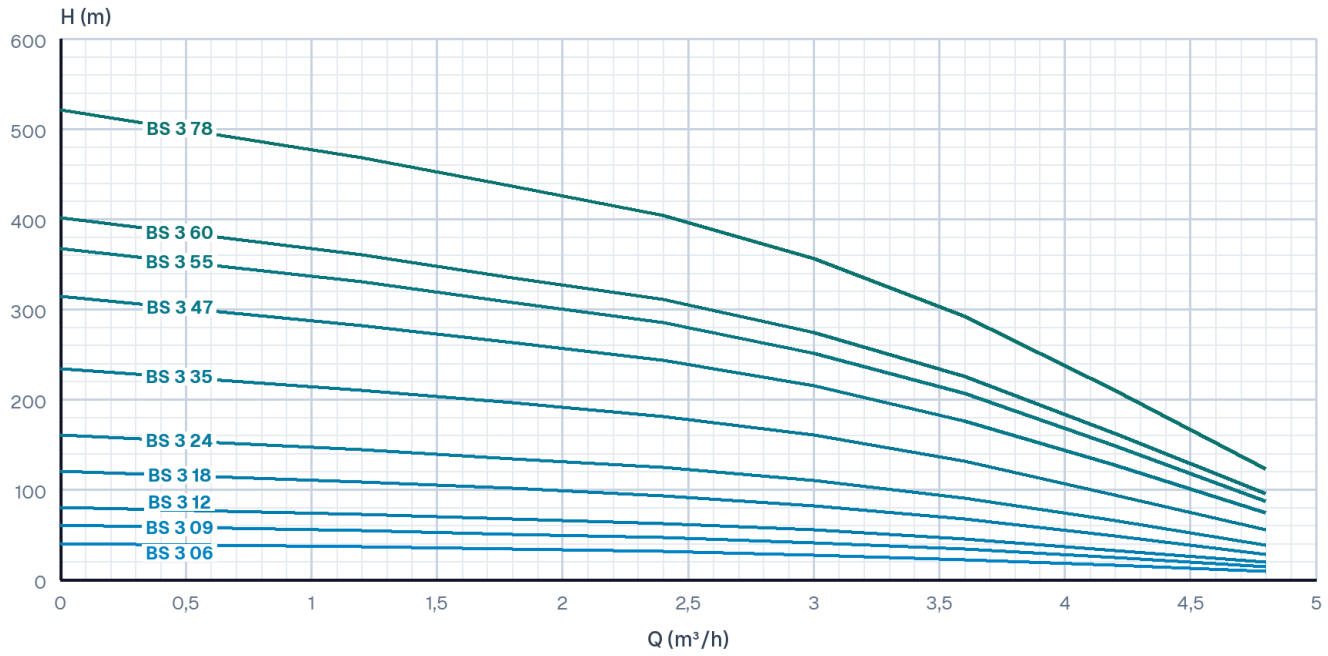
Q · Flow (m³/h)

Model	0	0,6	1,2	1,8	2,4	3	3,6
BS 2 07	45	43	40	36	31	24	16
BS 2 11	71	68	63	57	49	39	25
BS 2 14	90	86	80	72	62	49	31
BS 2 21	135	129	120	108	93	73	47
BS 2 27	173	166	154	139	120	93	60
BS 2 39	250	240	223	201	173	135	86
BS 2 50	321	307	286	257	221	173	111
BS 2 64	411	393	366	329	283	221	142
BS 2 70	450	430	400	360	310	242	155

Select the duty point at the intersection of Q and H.

BS 3 Series (Output 1 1/4")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 3 06	0,37	0,5	3,3 / 1,1
BS 3 09	0,55	0,75	4,3 / 1,5
BS 3 12	0,75	1	5,7 / 2,0
BS 3 18	1,1	1,5	8,4 / 2,8
BS 3 24	1,5	2	10,7 / 3,9

Model	kW	HP	A (230 / 400 V)
BS 3 35	2,2	3	14,7 / 5,5
BS 3 47	3	4	- / 7,5
BS 3 55	3,7	5	- / 9,0
BS 3 60	4	5,5	- / 9,9
BS 3 78	5,5	7,5	- / 12,6

BS 3 Series (Output 1 1/4")

Hydraulic performance

Total head H in metres

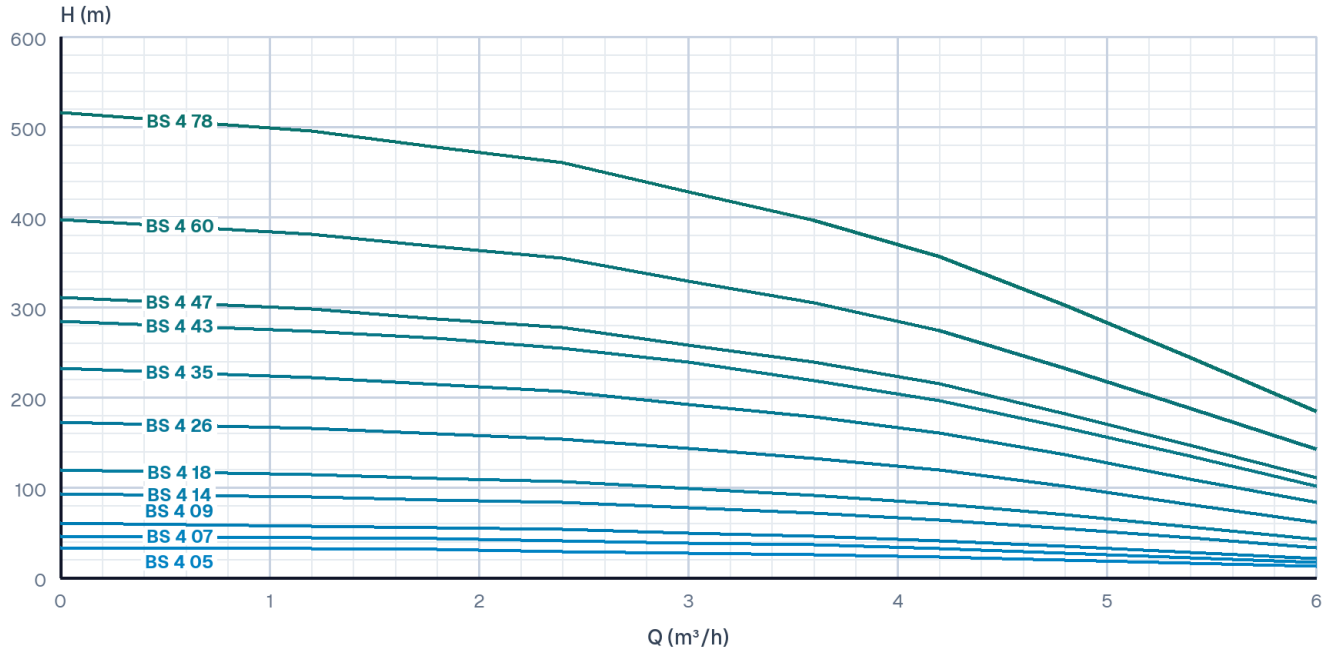
Q · Flow (m³/h)

Model	0	1,2	1,8	2,4	3	3,6	4,2	4,8
BS 3 06	40	36	34	31	27	22	16	9
BS 3 09	60	54	50	47	41	34	24	14
BS 3 12	80	72	67	62	55	45	32	19
BS 3 18	120	108	101	93	82	67	48	28
BS 3 24	160	144	134	124	110	90	65	38
BS 3 35	234	210	196	181	160	131	94	55
BS 3 47	314	282	263	243	215	176	127	74
BS 3 55	367	330	307	285	251	206	148	87
BS 3 60	401	360	335	311	274	225	162	95
BS 3 78	521	468	436	404	356	292	210	123

Select the duty point at the intersection of Q and H.

BS 4 Series (Output 1 1/4")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 4 05	0,37	0,5	3,3 / 1,1
BS 4 07	0,55	0,75	4,3 / 1,5
BS 4 09	0,75	1	5,7 / 2,0
BS 4 14	1,1	1,5	8,4 / 2,8
BS 4 18	1,5	2	10,7 / 3,9
BS 4 26	2,2	3	14,7 / 5,5

Model	kW	HP	A (230 / 400 V)
BS 4 35	3	4	- / 7,5
BS 4 43	3,7	5	- / 9,0
BS 4 47	4	5,5	- / 9,9
BS 4 60	5,5	7,5	- / 12,6
BS 4 78	7,5	10	- / 17,1

BS 4 Series (Output 1 1/4")

Hydraulic performance

Total head H in metres

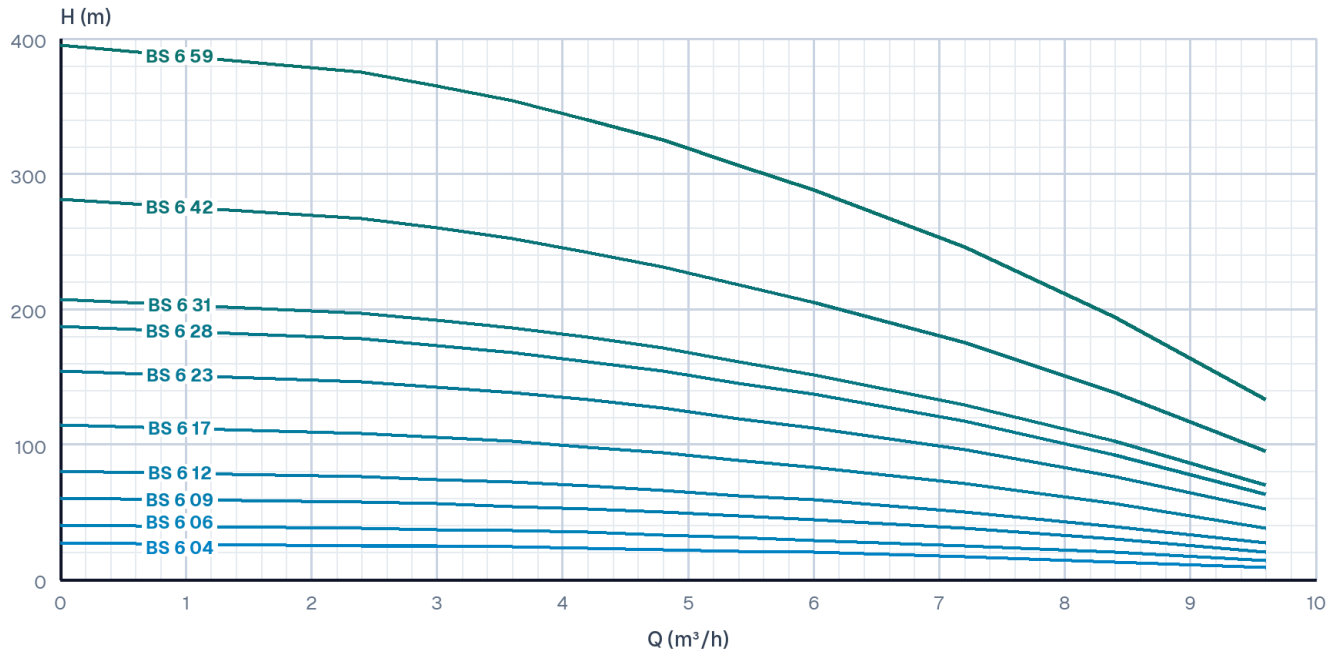
Q · Flow (m³/h)

Model	0	1,2	1,8	2,4	3	3,6	4,2	4,8	5,4	6
BS 4 05	33	32	31	29	27	25	23	19	16	12
BS 4 07	46	44	43	41	38	36	32	27	22	17
BS 4 09	60	57	55	53	49	46	41	35	28	21
BS 4 14	93	89	86	83	77	71	64	54	44	33
BS 4 18	119	114	110	106	99	91	82	70	56	42
BS 4 26	172	165	159	153	143	132	119	101	81	61
BS 4 35	232	222	214	206	192	178	160	136	109	83
BS 4 43	284	273	265	254	239	218	196	166	135	101
BS 4 47	311	298	287	277	258	239	215	182	147	111
BS 4 60	397	381	367	354	329	305	274	232	188	142
BS 4 78	516	495	477	460	428	396	356	302	244	184

Select the duty point at the intersection of Q and H.

BS 6 Series (Output 2")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 6 04	0,55	0,75	4,3 / 1,5
BS 6 06	0,75	1	5,7 / 2,0
BS 6 09	1,1	1,5	8,4 / 2,8
BS 6 12	1,5	2	10,7 / 3,9
BS 6 17	2,2	3	14,7 / 5,5

Model	kW	HP	A (230 / 400 V)
BS 6 23	3	4	- / 7,5
BS 6 28	3,7	5	- / 9,0
BS 6 31	4	5,5	- / 9,9
BS 6 42	5,5	7,5	- / 12,6
BS 6 59	7,5	10	- / 17,1

BS 6 Series (Output 2")

Hydraulic performance

Total head H in metres

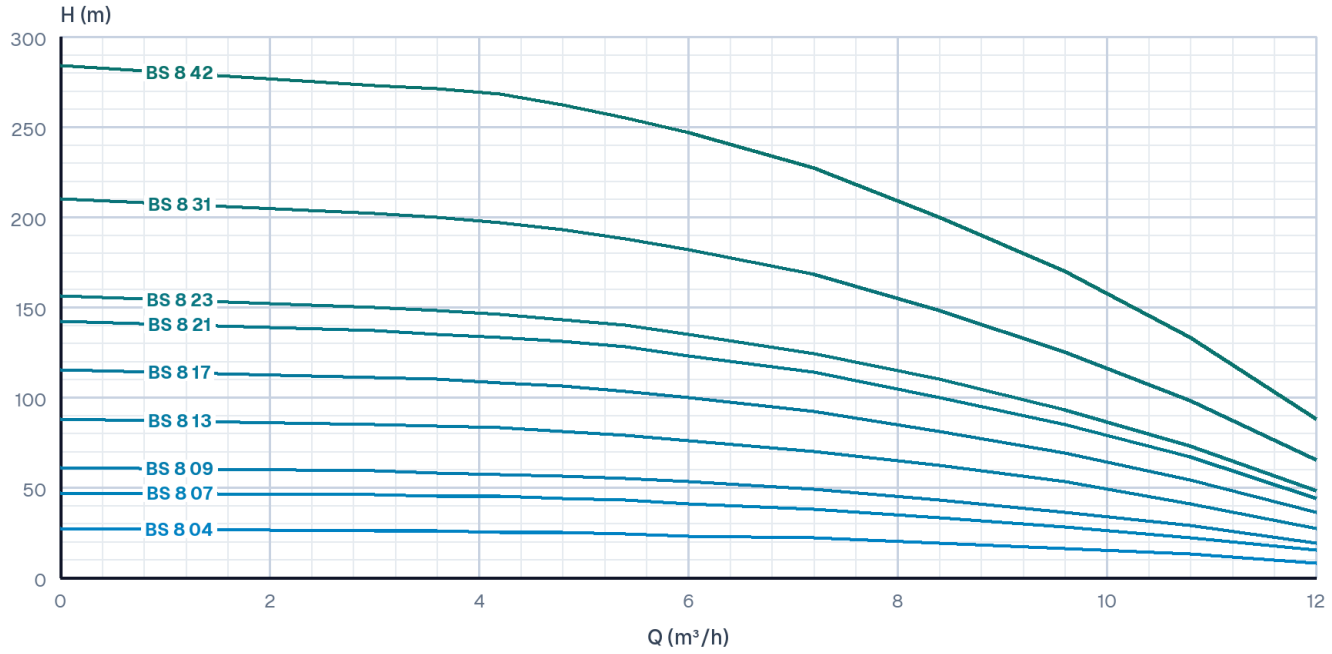
Q · Flow (m³/h)

Model	0	2,4	3	3,6	4,2	4,8	5,4	6	7,2	8,4	9,6
BS 6 04	27	25	25	24	23	22	21	20	17	13	9
BS 6 06	40	38	37	36	35	33	31	29	25	20	14
BS 6 09	60	57	56	54	52	50	47	44	38	30	20
BS 6 12	80	76	74	72	69	66	62	59	50	39	27
BS 6 17	114	108	105	102	98	94	88	83	71	56	38
BS 6 23	154	146	142	138	133	127	119	112	96	76	52
BS 6 28	187	178	173	168	161	154	145	137	117	92	63
BS 6 31	207	197	192	186	179	171	161	151	129	102	70
BS 6 42	281	267	260	252	242	231	218	205	175	138	95
BS 6 59	395	375	365	354	340	325	306	288	246	194	133

Select the duty point at the intersection of Q and H.

BS 8 Series (Output 2")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 8 04	0,75	1	5,7 / 2,0
BS 8 07	1,1	1,5	8,4 / 2,8
BS 8 09	1,5	2	10,7 / 3,9
BS 8 13	2,2	3	14,7 / 5,5
BS 8 17	3	4	- / 7,5

Model	kW	HP	A (230 / 400 V)
BS 8 21	3,7	5	- / 9,0
BS 8 23	4	5,5	- / 9,9
BS 8 31	5,5	7,5	- / 12,6
BS 8 42	7,5	10	- / 17,1

BS 8 Series (Output 2")

Hydraulic performance

Total head H in metres

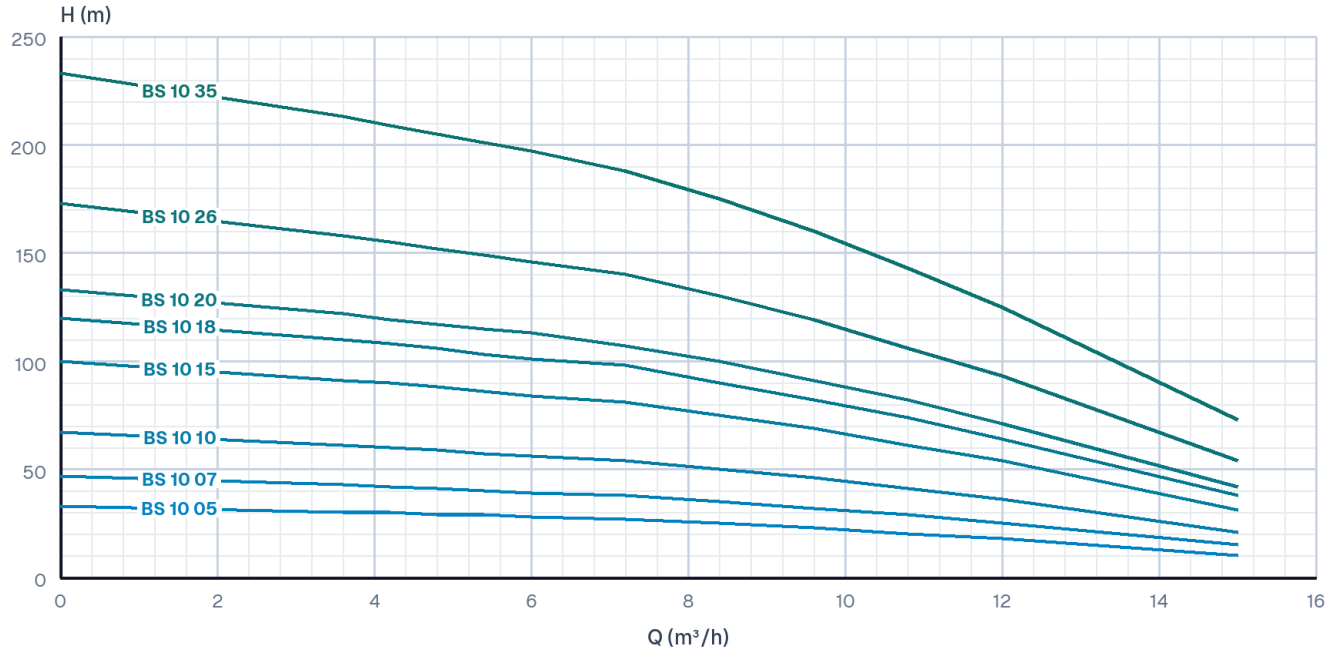
Q · Flow (m³/h)

Model	0	3	3,6	4,2	4,8	5,4	6	7,2	8,4	9,6	10,8	12
BS 8 04	27	26	26	25	25	24	23	22	19	16	13	8
BS 8 07	47	46	45	45	44	43	41	38	33	28	22	15
BS 8 09	61	59	58	57	56	55	53	49	43	36	29	19
BS 8 13	88	85	84	83	81	79	76	70	62	53	41	27
BS 8 17	115	111	110	108	106	103	100	92	81	69	54	36
BS 8 21	142	137	135	133	131	128	123	114	100	85	67	44
BS 8 23	156	150	148	146	143	140	135	124	110	93	73	48
BS 8 31	210	202	200	197	193	188	182	168	148	125	98	65
BS 8 42	284	273	271	268	262	255	247	227	200	170	133	88

Select the duty point at the intersection of Q and H.

BS 10 Series (Output 2")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 10 05	1,1	1,5	8,4 / 2,8
BS 10 07	1,5	2	10,7 / 3,9
BS 10 10	2,2	3	14,7 / 5,5
BS 10 15	3	4	- / 7,5

Model	kW	HP	A (230 / 400 V)
BS 10 18	3,7	5	- / 9,0
BS 10 20	4	5,5	- / 9,9
BS 10 26	5,5	7,5	- / 12,6
BS 10 35	7,5	10	- / 17,1

BS 10 Series (Output 2")

Hydraulic performance

Total head H in metres

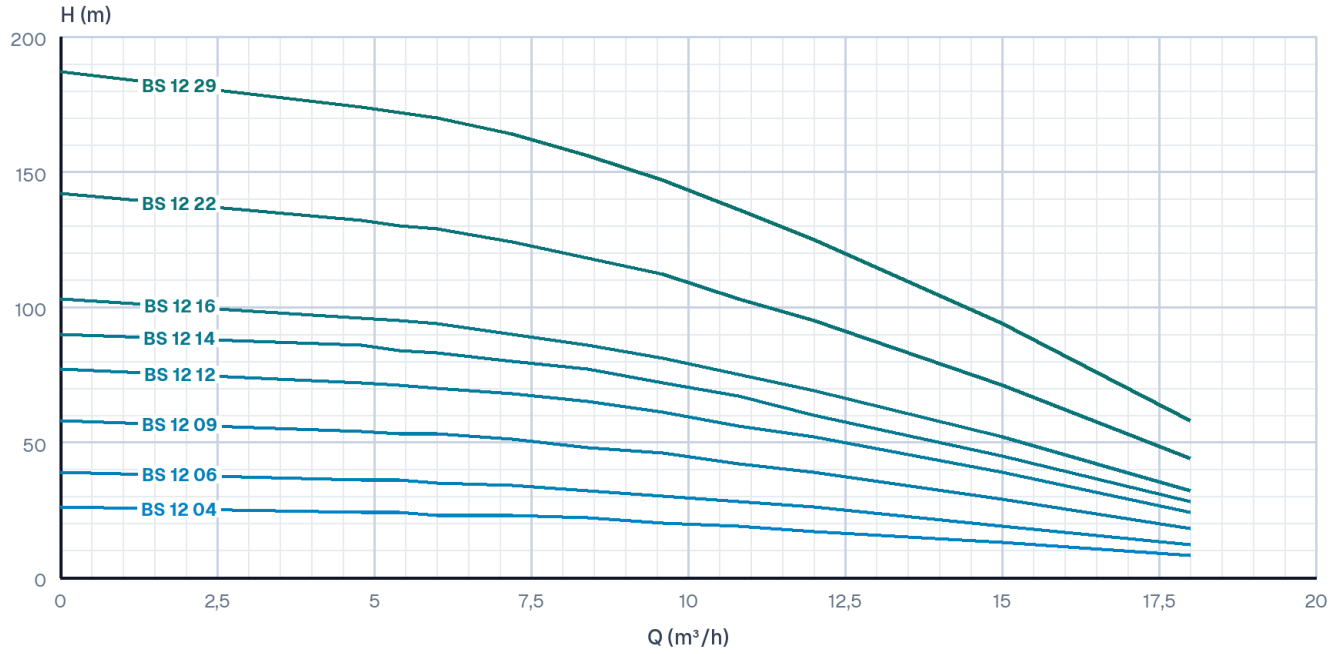
Q · Flow (m³/h)

Model	0	3,6	4,2	4,8	5,4	6	7,2	8,4	9,6	10,8	12	15
BS 10 05	33	30	30	29	29	28	27	25	23	20	18	10
BS 10 07	47	43	42	41	40	39	38	35	32	29	25	15
BS 10 10	67	61	60	59	57	56	54	50	46	41	36	21
BS 10 15	100	91	90	88	86	84	81	75	69	61	54	31
BS 10 18	120	110	108	106	103	101	98	90	82	74	64	38
BS 10 20	133	122	119	117	115	113	107	100	91	82	71	42
BS 10 26	173	158	155	152	149	146	140	130	119	106	93	54
BS 10 35	233	213	209	205	201	197	188	175	160	143	125	73

Select the duty point at the intersection of Q and H.

BS 12 Series (Output 2")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 12 04	1,1	1,5	8,4 / 2,8
BS 12 06	1,5	2	10,7 / 3,9
BS 12 09	2,2	3	14,7 / 5,5
BS 12 12	3	4	- / 7,5

Model	kW	HP	A (230 / 400 V)
BS 12 14	3,7	5	- / 9,0
BS 12 16	4	5,5	- / 9,9
BS 12 22	5,5	7,5	- / 12,6
BS 12 29	7,5	10	- / 17,1

BS 12 Series (Output 2")

Hydraulic performance

Total head H in metres

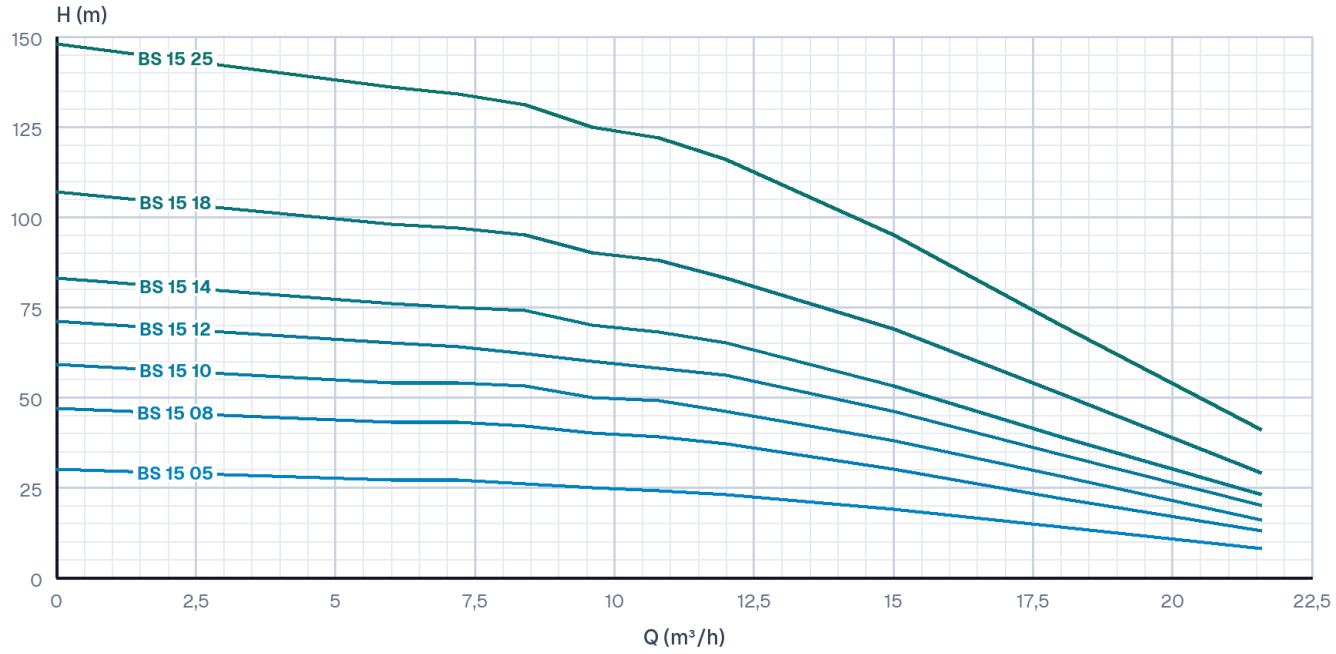
Q · Flow (m³/h)

Model	0	4,8	5,4	6	7,2	8,4	9,6	10,8	12	15	18
BS 12 04	26	24	24	23	23	22	20	19	17	13	8
BS 12 06	39	36	36	35	34	32	30	28	26	19	12
BS 12 09	58	54	53	53	51	48	46	42	39	29	18
BS 12 12	77	72	71	70	68	65	61	56	52	39	24
BS 12 14	90	86	84	83	80	77	72	67	60	45	28
BS 12 16	103	96	95	94	90	86	81	75	69	52	32
BS 12 22	142	132	130	129	124	118	112	103	95	71	44
BS 12 29	187	174	172	170	164	156	147	136	125	94	58

Select the duty point at the intersection of Q and H.

BS 15 Series (Output 2")

Performance curves



Electrical data

Rated values at 230 V / 400 V

Model	kW	HP	A (230 / 400 V)
BS 15 05	1,5	2	10,7 / 3,9
BS 15 08	2,2	3	14,7 / 5,5
BS 15 10	3	4	- / 7,5
BS 15 12	3,7	5	- / 9,0

Model	kW	HP	A (230 / 400 V)
BS 15 14	4	5,5	- / 9,9
BS 15 18	5,5	7,5	- / 12,6
BS 15 25	7,5	10	- / 17,1

BS 15 Series (Output 2")

Hydraulic performance

Total head H in metres

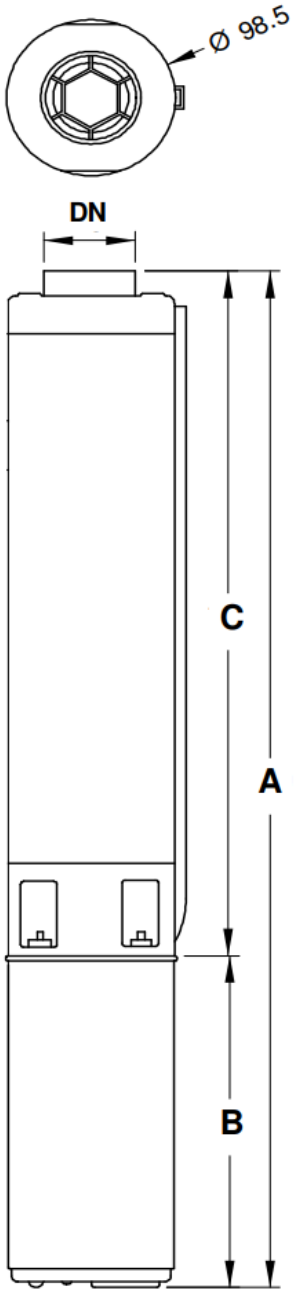
Q · Flow (m³/h)

Model	0	6	7,2	8,4	9,6	10,8	12	15	18	21,6
BS 15 05	30	27	27	26	25	24	23	19	14	8
BS 15 08	47	43	43	42	40	39	37	30	22	13
BS 15 10	59	54	54	53	50	49	46	38	28	16
BS 15 12	71	65	64	62	60	58	56	46	34	20
BS 15 14	83	76	75	74	70	68	65	53	39	23
BS 15 18	107	98	97	95	90	88	83	69	51	29
BS 15 25	148	136	134	131	125	122	116	95	70	41

Select the duty point at the intersection of Q and H.

Dimensions and models · 1/3

Dimensions and models



BS 1 Series Dimensions

Model	A (mm)	Weight (kg)	DN
BS 1 08	327	3.0	1" 1/4
BS 1 13	419	4.0	1" 1/4
BS 1 18	553	5.1	1" 1/4
BS 1 23	645	6.0	1" 1/4
BS 1 35	908	8.5	1" 1/4
BS 1 45	1134	11.5	1" 1/4
BS 1 65	1586	15.5	1" 1/4

BS 1.5 Series Dimensions

Model	A (mm)	Weight (kg)	DN
BS 1.5 07	308	2.9	1" 1/4
BS 1.5 09	345	3.1	1" 1/4
BS 1.5 15	456	4.1	1" 1/4
BS 1.5 19	571	5.4	1" 1/4
BS 1.5 29	756	7.3	1" 1/4
BS 1.5 38	964	9.3	1" 1/4
BS 1.5 58	1375	13.4	1" 1/4
BS 1.5 74	1753	16.5	1" 1/4

Dimensions and models · 2/3

Dimensions and models

BS 2 Series Dimensions

Model	A (mm)	Weight (kg)	DN
BS 2 07	308	3.0	1" 1/4
BS 2 11	382	3.7	1" 1/4
BS 2 14	438	4.1	1" 1/4
BS 2 21	608	5.8	1" 1/4
BS 2 27	719	6.8	1" 1/4
BS 2 39	982	9.5	1" 1/4
BS 2 50	1227	12.0	1" 1/4
BS 2 64	1568	15.5	1" 1/4
BS 2 70	1679	17.0	1" 1/4

BS 3 Series Dimensions

Model	A (mm)	Weight (kg)	DN
BS 3 06	311	3.0	1" 1/4
BS 3 09	377	3.5	1" 1/4
BS 3 12	443	4.2	1" 1/4
BS 3 18	616	5.6	1" 1/4
BS 3 24	748	6.9	1" 1/4
BS 3 35	1031	9.0	1" 1/4
BS 3 47	1336	12.0	1" 1/4
BS 3 55	1553	14.5	1" 1/4

BS 4 Series Dimensions

Model	A (mm)	B (mm)	C (mm)	DN
FM BS 4 05	517	228	289	1" 1/4
FT BS 4 05	503	214	289	1" 1/4
FM BS 4 07	586	253	333	1" 1/4
FT BS 4 07	561	228	333	1" 1/4
FM BS 4 09	659	283	377	1" 1/4
FT BS 4 09	625	248	377	1" 1/4
FM BS 4 14	793	307	487	1" 1/4
FT BS 4 14	769	283	487	1" 1/4
FM BS 4 18	954	339	616	1" 1/4
FT BS 4 18	922	307	616	1" 1/4
FM BS 4 26	1228	437	792	1" 1/4
FT BS 4 26	1130	339	792	1" 1/4
FT BS 4 35	1508	477	1031	1" 1/4
FT BS 4 47	1879	543	1336	1" 1/4
FT BS 4 60	2315	653	1663	1" 1/4
FT BS 4 78	2830	731	2100	1" 1/4

BS 6 Series Dimensions

Model	A (mm)	DN
BS 6 04	299	2"
BS 6 06	359	2"
BS 6 09	449	2"
BS 6 12	580	2"
BS 6 17	730	2"
BS 6 23	951	2"
BS 6 28	1142	2"
BS 6 31	1232	2"
BS 6 42	1603	2"
BS 6 59	2154	2"

Dimensions and models · 3/3

Dimensions and models

BS 8 Series Dimensions

Model	A (mm)	DN
BS 8 04	299	2"
BS 8 07	389	2"
BS 8 09	449	2"
BS 8 13	610	2"
BS 8 17	730	2"
BS 8 21	891	2"
BS 8 23	951	2"
BS 8 31	1232	2"
BS 8 42	1603	2"

BS 10 Series Dimensions

Model	A (mm)	DN
BS 10 05	439	2"
BS 10 07	543	2"
BS 10 10	740	2"
BS 10 15	1041	2"
BS 10 18	1238	2"
BS 10 20	1342	2"
BS 10 26	1695	2"
BS 10 35	2204	2"

BS 12 Series Dimensions

Model	A (mm)	B (mm)	C (mm)	DN
FM BS 12 04	693	307	387	2"
FT BS 12 04	669	283	387	2"
FM BS 12 06	829	339	491	2"
FT BS 12 06	797	307	491	2"
FM BS 12 09	1124	437	688	2"
FT BS 12 09	1026	339	688	2"
FT BS 12 12	1237	394	844	2"
FT BS 12 14	-	-	-	2"
FT BS 12 16	1636	543	1093	2"
FT BS 12 22	2098	653	1446	2"
FT BS 12 29	2581	731	1851	2"

BS 15 Series Dimensions

Model	A (mm)	B (mm)	C (mm)	DN
FM BS 15 05	777	339	439	2"
FT BS 15 05	745	307	439	2"
FM BS 15 08	1031	437	595	2"
FT BS 15 08	933	339	595	2"
FT BS 15 10	1133	394	740	2"
FT BS 15 12	-	-	-	2"
FT BS 15 14	1532	543	989	2"
FT BS 15 18	1890	653	1238	2"
FT BS 15 25	2373	731	1643	2"