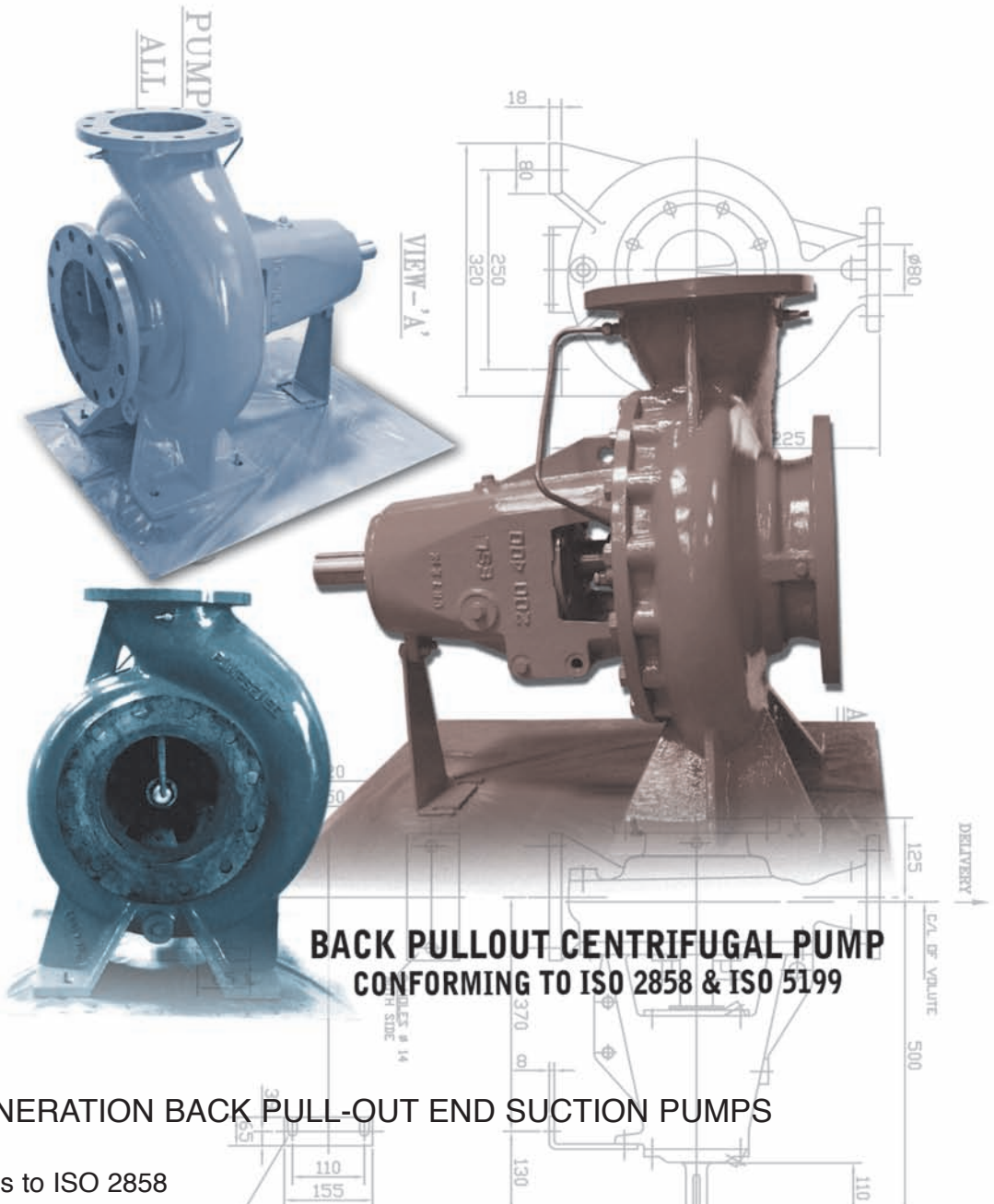


ES-ISO

FLANGE TABLE

SUCTION DELIVERY	PN 16	250	210	22	8, Ø18	SUCTION 125Ø			DELIVERY 80Ø		
						THK MIN	ØF HOLE	ND. SIZE	THK MIN	ØF HOLE	ND. SIZE
REF. NO.	TYPE OF FLANGE	D.D.	P.C.D.	THK MIN <td>ØF HOLE <td>D.D.</td> <td>P.C.D.</td> <td>THK MIN <td>ØF HOLE <td>ND. SIZE </td></td></td></td>	ØF HOLE <td>D.D.</td> <td>P.C.D.</td> <td>THK MIN <td>ØF HOLE <td>ND. SIZE </td></td></td>	D.D.	P.C.D.	THK MIN <td>ØF HOLE <td>ND. SIZE </td></td>	ØF HOLE <td>ND. SIZE </td>	ND. SIZE	
	PN 16					200	160	20		8, Ø18	



**BACK PULLOUT CENTRIFUGAL PUMP
CONFORMING TO ISO 2858 & ISO 5199**

ES-NEW GENERATION BACK PULL-OUT END SUCTION PUMPS

- Conforms to ISO 2858
- Conforms to ISO 5199
- Optimized for capacity

- Efficiency as per Hydraulic Institute & Europump Norms
- Many product variants - Centre line mounted, strengthened bearings, etc.
- Customized units for higher speed and special applications
- Many material and flange options



CLOCK WISE ROTATION
LOOKING FROM DRIVE END

REV	DESCRIPTION	DRN	CHKD	APPD	HS	DRG. NO.	SCALE
							NTS
0							

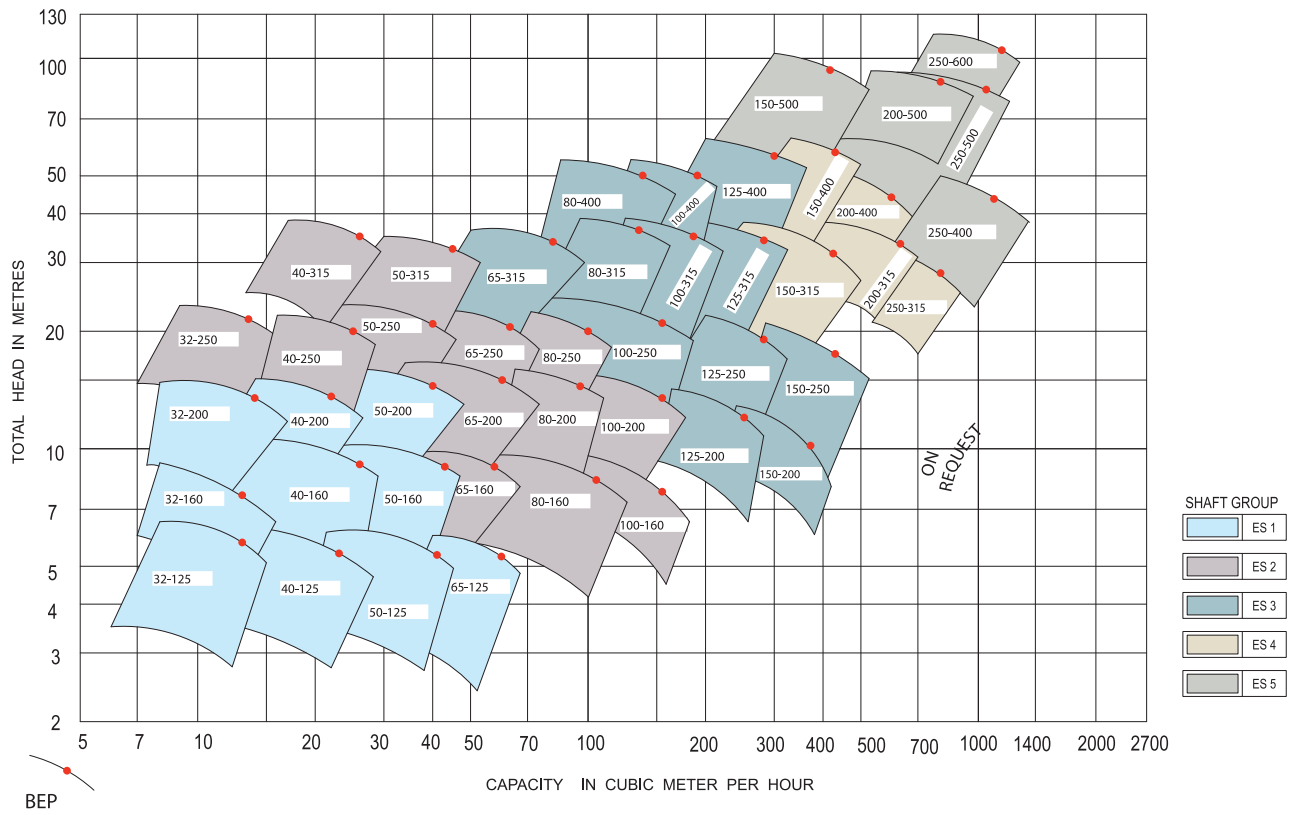
PUMPSENSE

TITLE GA DRG. FOR ES 80-160(CW)

DRN PD 01.08.11 DRG. NO.
CHKD PD 01.01.10
APPD HS 01.01.10
ES 80-160/GA-01/0

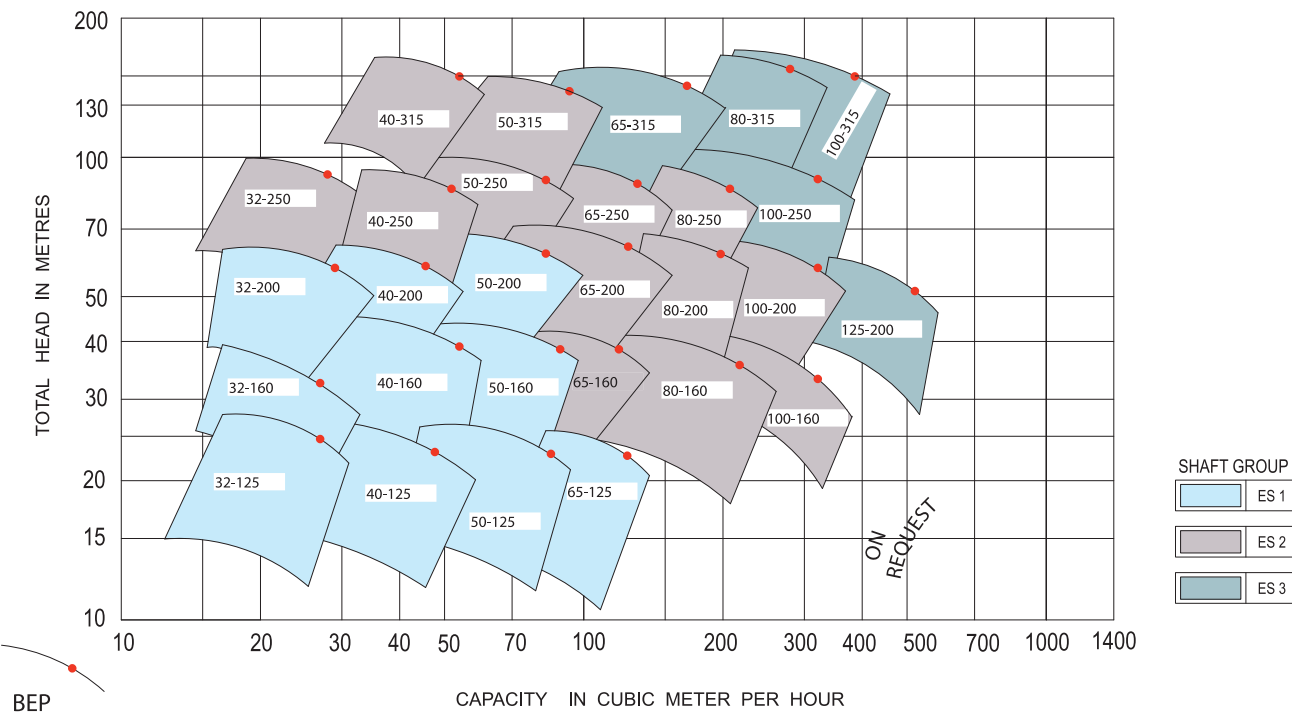
PUMPSENSE ISO 2858 / ISO 5199 END SUCTION PUMPS

RANGE CHART AT 50Hz 4 POLE SPEED



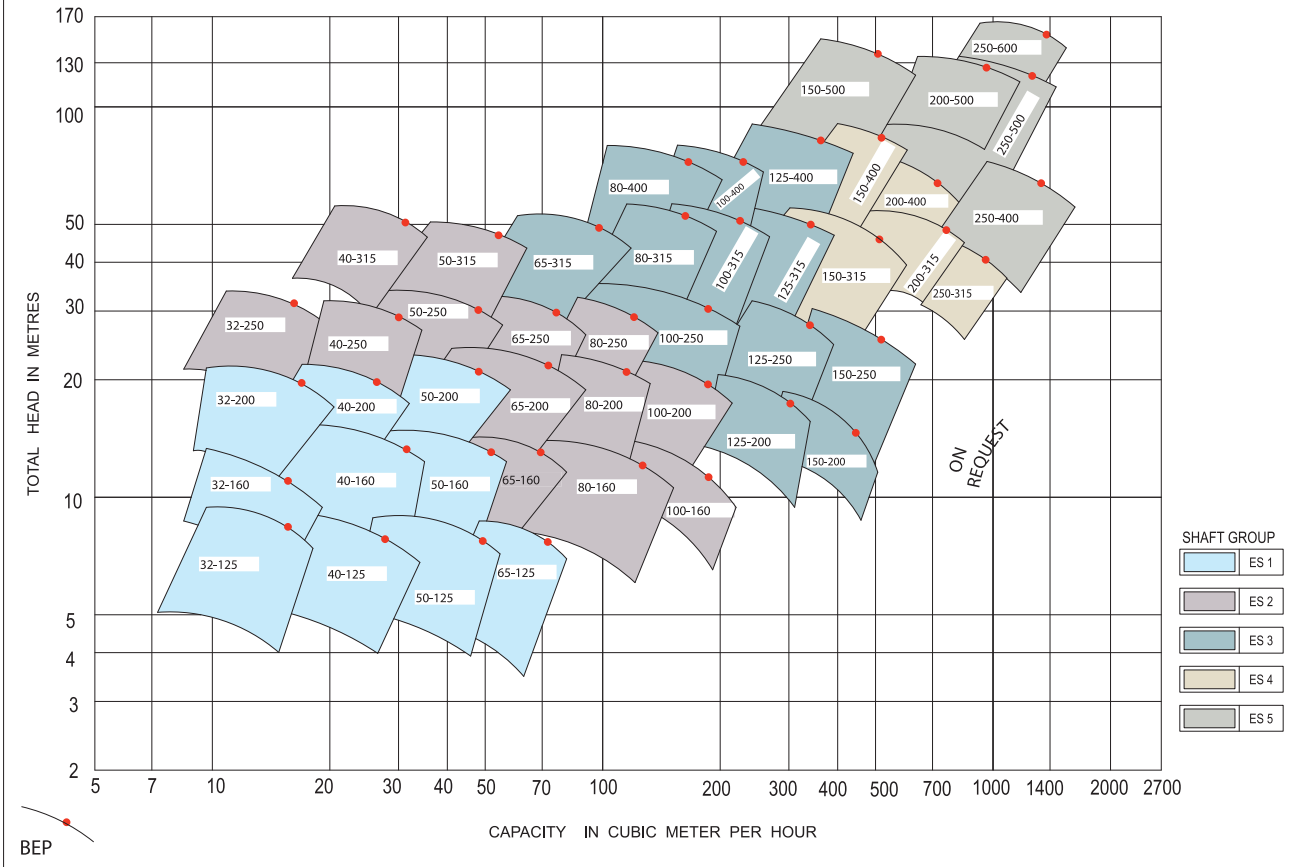
PUMPSENSE ISO 2858 / ISO 5199 END SUCTION PUMPS

RANGE CHART AT 50Hz 2 POLE SPEED



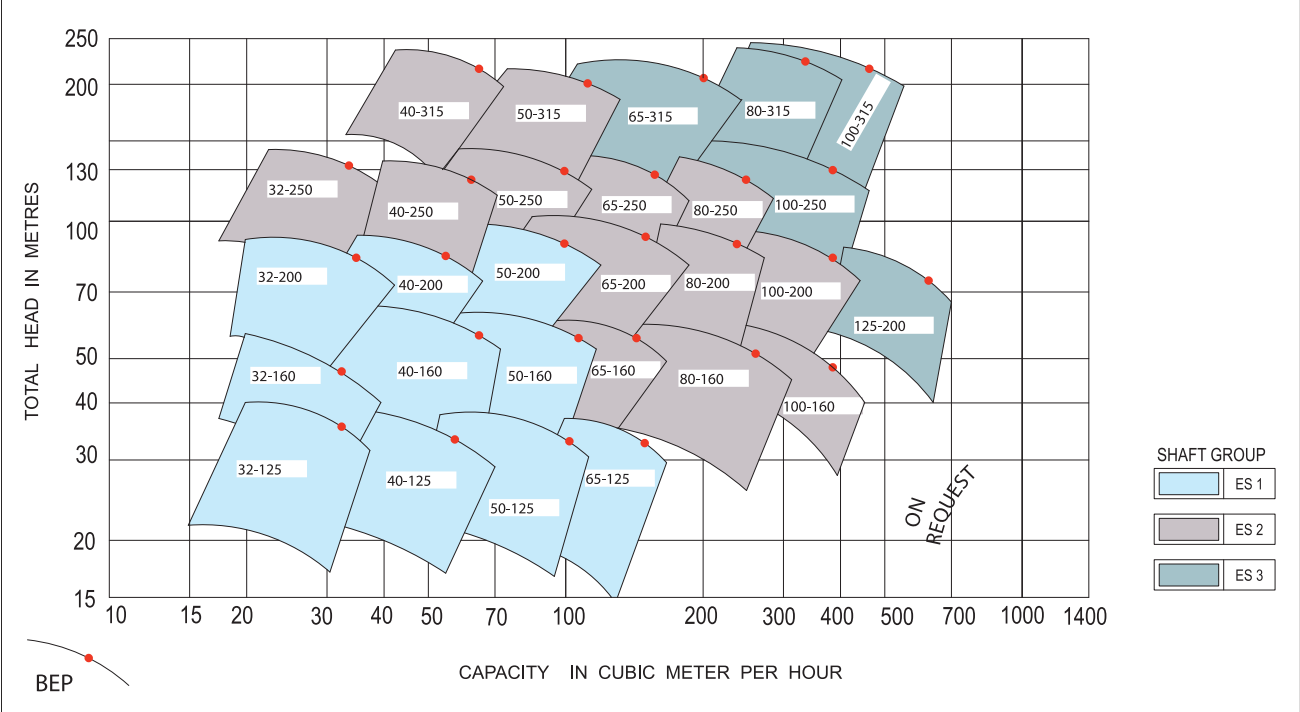
PUMPSense ISO 2858 / ISO 5199 END SUCTION PUMPS

RANGE CHART AT 60Hz 4 POLE SPEED

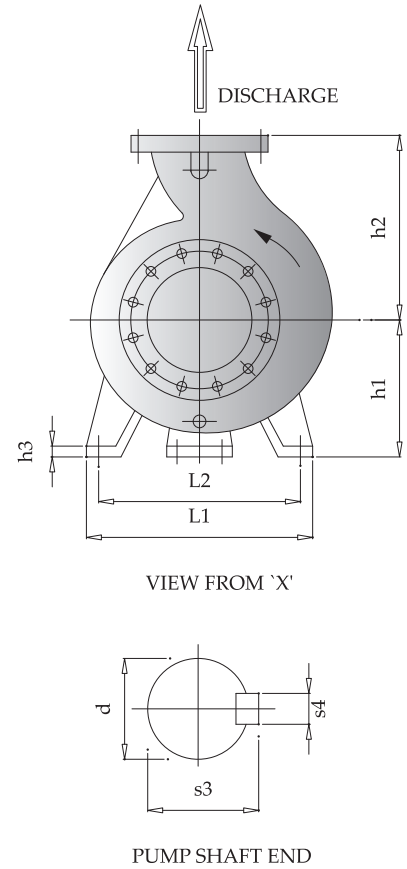
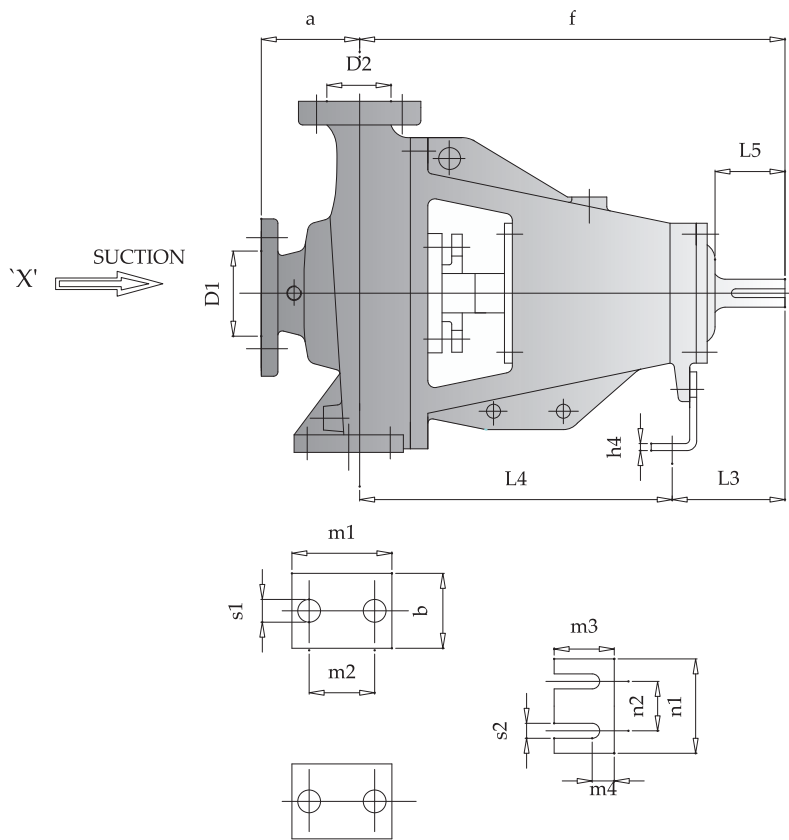


PUMPSense ISO 2858 / ISO 5199 END SUCTION PUMPS

RANGE CHART AT 60Hz 2 POLE SPEED



PUMP DIMENSIONS (in mm)



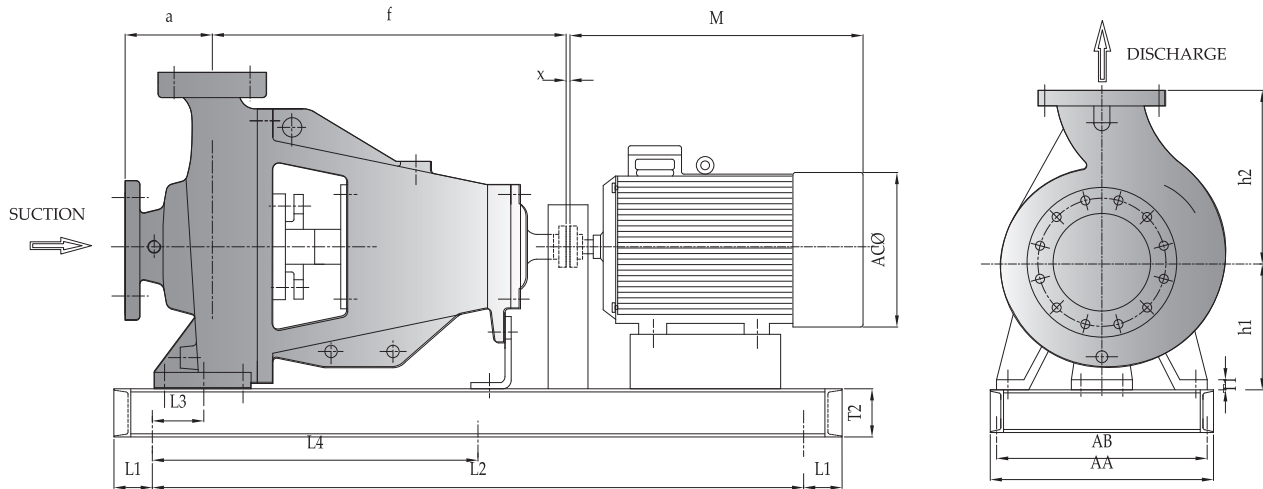
PUMP FEET DETAILS.

PUMP SHAFT END

(For suction & discharge pipe sizes, refer performance curves)

Pump Size	Pump Dimensions								Mounting Dimensions												Shaft Dimensions				Weight (kg)	
	D1	D2	a	f	h1	h2	b	h3	h4	m4	m1	m2	m3	L1	L2	n1	n2	s1	s2	L3	L4	d	L5	s3		s4
ES 50x32-125	50	32	80	385	112	140	50	15	8	42	100	70	65	190	140	155	110	14	14	100	285	24	50	26.9	8	36
ES 50x32-160	50	32	80	385	132	160	50	15	8	42	100	70	65	240	190	155	110	14	14	100	285	24	50	26.9	8	34
ES 50x32-200	50	32	80	385	160	180	50	15	8	43	100	70	65	240	190	155	110	14	14	100	285	24	50	26.9	8	44
ES 50x32-250	50	32	100	500	180	225	65	18	8	39	125	95	65	320	250	155	110	14	14	130	370	32	80	35.3	10	68
ES 65x40-125	65	40	80	385	112	140	50	15	8	42	100	70	65	210	160	155	110	14	14	100	285	24	50	26.9	8	38
ES 65x40-160	65	40	80	385	132	160	50	15	8	42	100	70	65	240	190	155	110	14	14	100	285	24	50	26.9	8	38
ES 65x40-200	65	40	100	385	160	180	50	15	8	43	100	70	65	265	212	155	110	14	14	100	285	24	50	26.9	8	49
ES 65x40-250	65	40	100	500	180	225	65	18	8	39	125	95	65	320	250	155	110	14	14	130	370	32	80	35.3	10	73
ES 65x40-315	65	40	125	500	200	250	65	18	12	39	125	95	65	345	280	155	110	14	14	130	370	32	80	35.3	10	104
ES 80x50-125	80	50	100	385	132	160	50	15	8	42	100	70	65	240	190	155	110	14	14	100	285	24	50	26.9	8	40
ES 80x50-160	80	50	100	385	160	180	50	15	8	43	100	70	65	265	212	155	110	14	14	100	285	24	50	26.9	8	42
ES 80x50-200	80	50	100	385	160	200	50	15	8	43	100	70	65	265	212	155	110	14	14	100	285	24	50	26.9	8	47
ES 80x50-250	80	50	125	500	180	225	65	18	8	39	125	95	65	320	250	155	110	14	14	130	370	32	50	35.3	10	72
ES 80x50-315	80	50	125	500	225	280	65	18	12	42	125	95	65	345	280	155	110	14	14	130	370	32	80	35.3	10	108
ES 100x65-125	100	65	100	385	160	180	65	18	8	43	125	95	65	280	212	155	110	14	14	100	285	24	80	26.9	8	49
ES 100x65-160	100	65	100	500	160	200	65	18	8	39	125	95	65	280	212	155	110	14	14	130	370	32	50	35.3	10	70
ES 100x65-200	100	65	100	500	180	225	65	18	8	43	125	95	65	320	250	155	110	14	14	130	370	32	80	35.3	10	61
ES 100x65-250	100	65	125	500	200	250	80	19	12	40	160	120	65	360	280	155	110	18	14	130	370	32	80	35.3	10	89
ES 100x65-315	100	65	125	530	225	280	80	19	12	39	160	120	65	400	315	155	110	18	14	160	370	42	80	45.1	12	126
ES 125x80-125	125	80	125	500	180	225	65	18	8	39	125	95	65	320	250	155	110	14	14	130	370	32	110	35.3	10	89
ES 125x80-200	125	80	125	500	180	250	65	18	8	39	125	95	65	345	280	155	110	14	14	130	370	32	80	35.3	10	92
ES 125x80-250	125	80	125	500	225	280	80	19	12	42	160	120	65	400	315	155	110	18	14	130	370	32	80	35.3	10	106
ES 125x80-315	125	80	125	530	250	315	80	19	12	39	160	120	65	400	315	155	110	18	14	160	370	42	80	45.1	12	132
ES 125x80-400	125	80	125	530	280	355	80	20	12	39	160	120	65	435	355	155	110	18	14	160	370	42	110	45.1	12	162
ES 125x100-160	125	100	125	500	200	280	80	19	12	40	160	120	65	360	280	155	110	18	14	130	370	32	110	35.3	10	105
ES 125x100-200	125	100	125	500	200	280	80	18	12	40	160	120	65	360	280	155	110	18	14	130	370	32	80	35.3	10	108
ES 125x100-250	125	100	140	530	225	280	80	20	12	39	160	120	65	400	315	155	110	18	14	160	370	42	80	45.1	12	132
ES 125x100-315	125	100	140	530	250	315	80	18	12	39	160	120	65	400	315	155	110	18	14	160	370	42	110	45.1	12	142
ES 125x100-400	125	100	140	530	280	355	100	20	12	39	200	150	65	500	400	155	110	22	14	160	370	42	110	45.1	12	178
ES 150x125-200	150	125	140	530	250	315	80	20	12	39	160	120	65	400	315	155	110	18	14	160	370	42	110	45.1	12	136
ES 150x125-250	150	125	140	530	250	355	80	18	12	39	160	120	65	400	315	155	110	18	14	160	370	42	110	45.1	12	157
ES 150x125-315	150	125	140	530	280	400	100	20	12	39	200	150	65	500	400	155	110	22	14	160	370	42	110	45.1	12	156
ES 150x125-400	150	125	140	530	315	400	100	20	12	39	200	150	65	500	400	155	110	22	14	160	370	42	110	45.1	12	193
ES 200x150-200	200	150	160	530	280	400	100	20	12	39	200	150	65	550	450	155	110	22	14	160	370	42	110	45.1	12	183
ES 200x150-250	200	150	160	530	280	375	100	20	12	39	200	150	65	500	400	155	110	22	14	160	370	42	110	45.1	12	192
ES 200x150-315	200	150	160	670	315	400	100	20	15	38	200	150	68	550	450	210	140	22	20	170	500	48	110	51.5	14	254
ES 200x150-400	200	150	160	670	315	450	100	20	15	38	200	150	68	550	450	210	140	22	20	170	570	48	110	51.5	14	280
ES 200x150-500	200	150	180	625	375	500	100	25	15	40	200	150	70	550	450	210	140	24	14	165	455	65	110	69.9	20	465
ES 250x200-315	250	200	200	625	355	450	100	25	15	45	200	150	75	550	450	250	140	24	14	170	455	48	110	51.5	14	335
ES 250x200-400	250	200	180	625	355	500	100	25	15	45	200	150	75	550	450	250	140	24	14	170	455	48	110	51.5	14	425
ES 250x200-500	250	200	200	700	400	550	100	25	15	45	200	150	75	650	550	250	140	27	14	200	500	65	140	69.9	20	525
ES 300x250-315	300	250	250	625	400	550	120	25	15	45	240	180	75	680	580	250	140	27	14	170	455	48	110	51.5	14	350
ES 300x250-400	300	250	200	700	375	550	120	30	15	45	240	180	75	600	500	250	140	27	14	200	500	65	140	69.9	20	475
ES 300x250-500	300	250	200	700	425	620	120	30	15	45	240	180	75	700	600	250	140	27	14	200	500	65	140	69.9	20	550

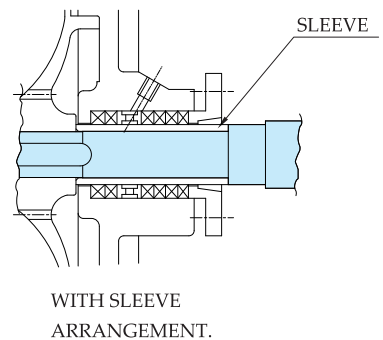
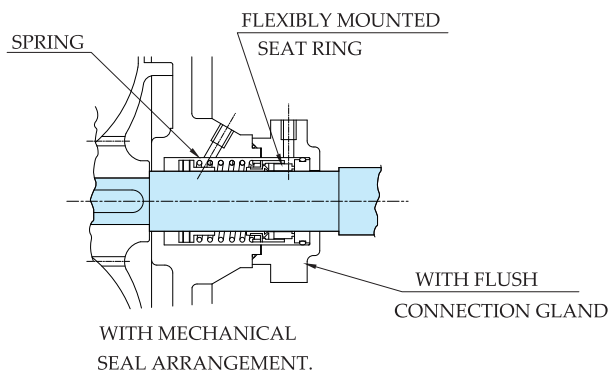
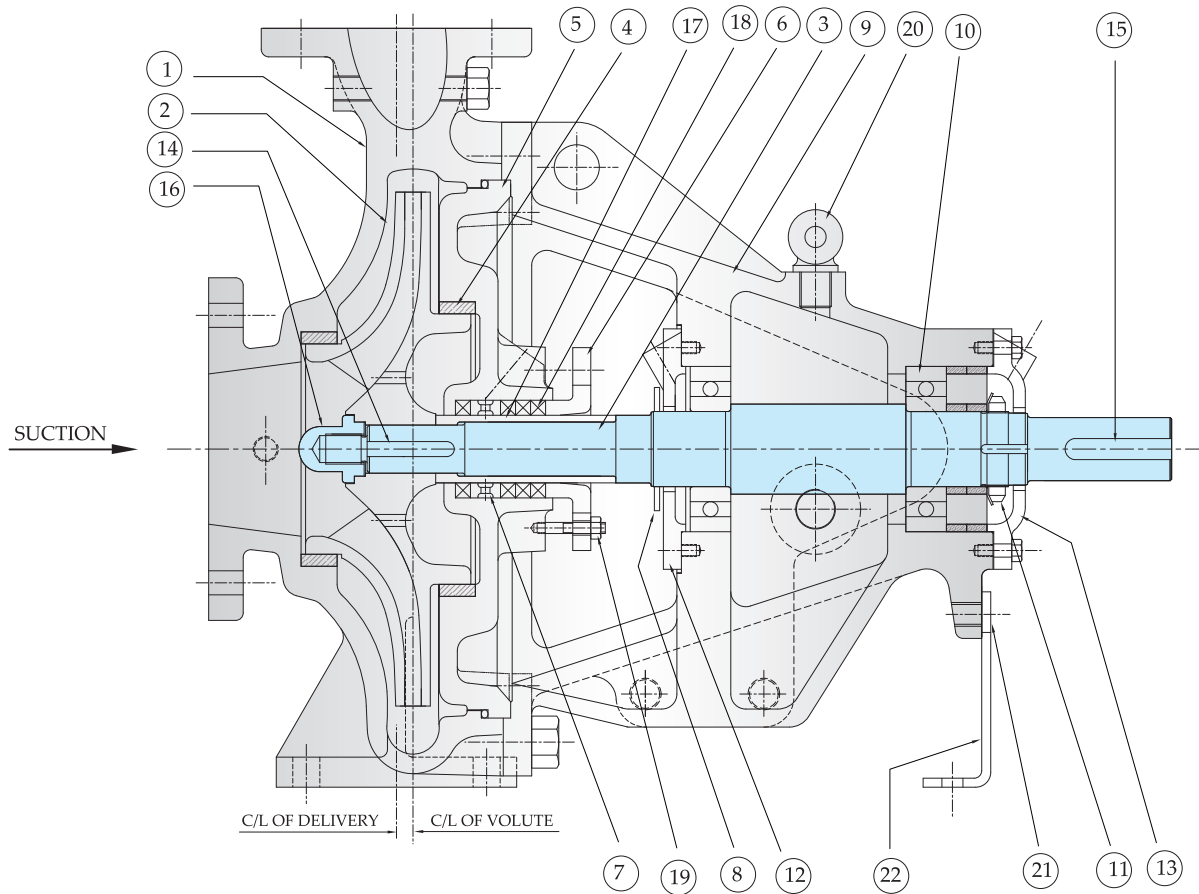
PUMP DIMENSIONS WITH MOTOR



(All dimensions are in mm)

Pump Size	P O L E	Frame Size	Pump Dimensions				Base Plate Dimensions								Motor		
			a	f	h1	h2	L1	L2	L3	L4	AA	AB	T1	T2	M	AC	X
ES 50x32-125	4	AD/D80	80	385	112	140	150	715	85	0	152	125	15	75	285	165	5
ES 50x32-160	4	AD/D80	80	385	132	160	150	715	85	0	152	125	15	75	285	165	5
ES 50x32-200	4	AD/ND90S	80	385	160	180	150	731	85	0	170	140	15	75	310	180	5
ES 50x32-250	4	AD/ND100L	100	500	180	225	150	915.5	97.5	457.75	192	160	18	75	380	215	5
ES 65x40-125	4	AD/D80	80	385	112	140	150	715	85	0	152	125	15	75	285	165	5
ES 65x40-160	4	AD/ND90S	80	385	132	160	150	731	85	0	170	140	15	75	310	180	5
ES 65x40-200	4	AD/ND90L	100	385	160	180	150	756	85	0	170	140	15	75	335	180	5
ES 65x40-250	4	AD/ND112M	100	500	180	225	150	922.5	97.5	461.25	222	190	18	75	405	235	5
ES 65x40-315	4	ND132S	125	500	200	250	150	961.5	97.5	480.75	254	216	18	75	470	275	5
ES 80x50-125	4	AD/ND90S	100	385	132	160	150	731	85	42	170	140	15	75	310	180	5
ES 80x50-160	4	AD/ND90L	100	385	160	180	150	756	85	43	170	140	15	75	335	180	5
ES 80x50-200	4	AD/ND112M	100	385	160	200	150	795	85	43	222	190	15	75	405	235	5
ES 80x50-250	4	ND132S	125	500	180	225	150	961.5	97.5	480.75	254	216	18	75	470	275	5
ES 80x50-315	4	ND132M	125	500	225	280	150	999.5	97.5	499.75	254	216	18	100	510	275	5
ES 100x65-125	4	AD/ND90S	100	385	160	180	150	743.5	97.5	371.75	170	140	18	75	310	180	5
ES 100x65-160	4	AD/ND100L	100	500	160	200	150	915.5	97.5	457.75	192	160	18	75	380	215	5
ES 100x65-200	4	AD/ND112M	100	500	180	225	150	922.5	97.5	461.25	222	190	18	75	405	235	5
ES 100x65-250	4	ND132S	125	500	200	250	150	974	110	487	254	216	19	75	470	275	5
ES 100x65-315	4	ND/160M	125	530	225	280	150	1123	110	561.5	308	254	19	100	605	318	5
ES 125x80-160	4	AD/ND112M	125	500	180	225	150	922.5	97.5	461.25	222	190	18	75	405	235	5
ES 125x80-200	4	ND132S	125	500	180	250	150	961.5	97.5	480.75	254	216	18	75	470	275	5
ES 125x80-250	4	ND/160M	125	500	225	280	150	1093	110	546.5	308	254	19	100	605	318	5
ES 125x80-315	4	ND180L	125	530	250	315	150	1205	110	602.5	348	279	19	100	715	352	5
ES 125x80-400	4	ND200L	125	530	280	355	150	1243	110	621.5	381	318	20	100	805	428	5
ES 125x100-160	4	ND132S	125	500	200	280	150	974	110	487	254	216	18	75	470	275	5
ES 125x100-200	4	ND132M	125	500	200	280	150	1012	110	506	254	216	18	100	510	275	5
ES 125x100-250	4	ND160L	140	530	225	280	150	1167	110	583.5	308	254	20	100	650	318	5
ES 125x100-315	4	ND200L	140	530	250	315	150	1243	110	621.5	381	318	18	100	805	428	5
ES 125x100-400	4	ND225S	140	530	280	355	150	1285	125	642.5	425	356	20	125	880	470	5
ES 150x125-200	4	ND/160M	140	530	250	315	150	1123	110	561.5	308	254	20	100	605	318	5
ES 150x125-250	4	ND180L	140	530	250	355	150	1205	110	602.5	348	279	18	100	715	352	5
ES 150x125-315	4	ND225S	140	530	280	400	150	1285	125	642.5	425	356	20	125	880	470	5
ES 150x125-400	4	ND280S	140	530	315	400	150	1408	125	704	538	457	20	125	1085	536	5
ES 200x150-200	4	ND160L	160	530	280	400	150	1182	125	591	308	254	20	100	650	318	5
ES 200x150-250	4	ND200L	160	530	280	375	150	1258	125	629	381	318	20	100	805	428	5
ES 200x150-315	4	ND250M	160	625	315	400	150	1462	125	731	483	406	20	125	940	500	5
ES 200x150-400	4	ND280M	160	625	315	450	150	1554	125	777	538	457	25	125	1085	536	5
ES 200x150-500	4	ND315L	180	625	375	500	150	1699	125	849.5	610	508	20	150	1375	655	5
ES 250x200-315	4	ND280S	200	625	355	450	150	1503	125	751.5	538	457	25	125	1085	536	5
ES 250x200-400	4	ND280M	180	625	355	500	150	1554	125	777	538	457	25	125	1085	536	5
ES 250x200-500	4	ND355L	200	700	400	550	150	1974	125	987	710	610	25	200	1513	672	5

SECTIONAL VIEW



CONSTRUCTION

SL No.	Description	SL No.	Description
1.	PUMP CASING	12.	BEARING END COVER (INNER)
2.	IMPELLER	13.	BEARING END COVER (OUTER)
3.	PUMP SHAFT	14.	KEY FOR IMPELLER
4.	CASING WEAR RING	15.	KEY FOR COUPLING
5.	STUFFING BOX HOUSING	16.	IMPELLER NOSE CAP
6.	GLAND	17.	SHAFT SLEEVE
7.	LANTERN RING	18.	STUFFING BOX PACKING
8.	WATER THROWER	19.	STUD FOR GLAND
9.	BEARING HOUSING	20.	EYE BOLT
10.	DEEP GROOVE BALL BEARING	21.	HEX SCREW
11.	LOCK NUT AND WASHER	22.	SUPPORT FOOT

ES-ISO HIGH EFFICIENCY BACK PULLOUT PUMPS

1. CASING - Highly efficient volute, designed with finite element stress analysis technique ensure high strength and optimum performance. Suction and Discharge flanges are as per PN 16
2. IMPELLER - Developed using a large body of empirical data to optimize on capacity and efficiency . Impeller are fully shrouded with balancing hole to balance axial thrust .
3. BACK COVER - Of advanced design to complement high performance characteristics of casing and impeller. It features unique 'O' ring seal for positive, leakproof connection to pump casing.
4. STUFFING BOX - Designed for both mechanical seal and packed gland. The box is extra deep fitted with six rings of high quality packing and features a split gland to simplify replacement of packing. All pumps have a liquid sealed stuffing box, pressure regulated by the clearing vanes and provision for an external supply of clean fluid. A choice of various mechanical seals is available to suit specific applications.
5. SHAFT - Machined from high quality stainless steel, the shaft is sturdily proportioned to minimise deflection and provide long-term reliable service.
6. HOUSING - Rigid single-piece casting for strength and durability featuring positive no-gap location to casing and ensuring accurate coupling realignment.
7. BEARING - Two heavy duty, single row, deep groove ball bearings are design-rated to ensure an exceptionally long, trouble-free life. Each bearing is protected by a cast iron cover with inbuilt seal and contamination deflector. Grease lubrication is standard. Re-inforced bearing arrangement available for certain heavy duty applications.

ES-ISO - THE ADVANCED FEATURES

- HIGHER PERFORMANCE - Advanced analysis of large body of empirical data have been used in the design of key components of ES-ISO resulting in a pump which can out-perform, size for any size other pump in the market. Stable head-capacity and improved non-overloading - power characteristics are features provide in most models.
- LOWER OPERATING COSTS - The range achieve higher efficiencies compared to similar pumps.
- SIMPLE LOW COST MAINTENANCE - The ES-ISO incorporates the proven back pullout feature, which simplifies maintenance cost. The pipework and driver can remain undisturbed during routine maintenance.
- EXCELLENT INTERCHANGEABILITY - A new level of component standardization in ES-ISO means great reduction of spare parts stock-holdings.

OPTIONAL FEATURES

The standard ES-ISO pumps can be supplied with the following option:

- Mechanical Seals - to suit specific applications.
- Wear Rings - in 2 combinations: Casing Ring only or Casing & Impeller Rings.
- Shaft Sleeve
- External Gland Flush - for pumping abrasive fluids.
- Oil Lubricated Bearings - for high temperature fluids.
- Gauge Tapping - for connecting measuring instruments.
- Flanges - as per other international standards.

APPLICATIONS

Power Industry - DM water, condensate transfer, fill and other auxiliary services, fire protection duties.

Chemical Industry - Process applications, emergency fire services, power generation systems, general mechanical services.

General Industry - Paper & Sugar Industries, Marine applications, Iron & Steel production.

Building Service - Fire protection systems, general mechanical services.

Irrigation and water supply - Sprinkler, drip and flood irrigation, Municipal water supply.

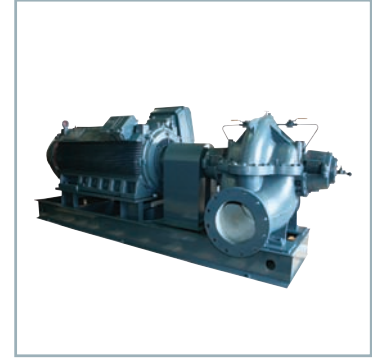
OTHER PRODUCTS FROM PUMPSENSE



CSC, New Generation Compact Split Case Pumps, offer high energy efficiency, optimum mechanical reliability and smallest foot print for air conditioning and industrial casting applications. These pumps are also offered in vertical and high pressure configurations



Our single stage range of NFPA20 fire pumps cover duties up to 5000usgpm and beyond. Pumps can be supplied with certification by independent inspection agencies



Standard split case range covers both single and two stage pumps for capacities up to 300m³/hr and heads up to 200m. Many customized options are available



A comprehensive range of horizontal and vertical dry pit sewage pumps are available to cover a wide range of duties at four pole, six pole and eight pole speeds.



Large end suction pumps cover sizes up to 400mm. These pumps are available for air con, industrial cooling water supply, and marine fire services



Two stage split case pumps are available for high pressure cleaning and high head industrial applications. Pumps are offered with both internal and external cross-over for capacities up to 100m³/hr and head up to 400m



Single stage double volute split case pumps are offered both in horizontal and vertical shaft configuration. Customised designs are offered for special applications



Two stage NFPA20 Split Case fire pumps incorporate two double entry impellers for high suction capability and complete axial thrust balance. The pumps are available for rated flows up to 1500gpm and heads up to 300mat 2950rpm



Test Bed at Pumpsense is fully compliant with requirements of ISO9906. Test set up is fully automated for data aquisition

We upgrade our products continuously. The information contained in this brochure should be used for general guidelines only since they are subject to change without notice.

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