INTERNATIONAL STANDARD ISO 2858

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End-suction centrifugal pumps (rating 16 bar) — Designation, nominal duty point and dimensions

Pompes centrifuges à aspiration en bout (pression nominale 16 bar) — Désignation, point de fonctionnement nominal et dimensions

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2858 (2nd Edition) was drawn up by Technical Committee ISO/TC 115, *Pumps*. It was submitted directly to the ISO Council, in accordance with clause 6.12.1 of the Directives for the technical work of ISO.

This International Standard cancels and replaces International Standard ISO 2858-1973, which had been approved by the Member Bodies of the following countries :

Austria	Israel	Spain
Belgium	Italy	Sweden
Egypt, Arab Rep. of	Netherlands	Switzerland
France	New Zealand	Thailand
Germany	Norway	Turkey
Hungary	Portugal	United Kingdom
India	Romania	U.S.S.R.
Ireland	South Africa, Rep. of	

The Member Bodies of the following countries had expressed disapproval of the document on technical grounds :

Australia
Czechoslovakia
Japan
U.S.A.

Printed in Switzerland

End-suction centrifugal pumps (rating 16 bar) — Designation, nominal duty point and dimensions

1 SCOPE AND FIELD OF APPLICATION[1)]

This International Standard specifies the principal dimensions and nominal duty point of end-suction centrifugal pumps having a maximum operating rating of 16 bar.[2)]

2 REFERENCES

ISO/R 228, *Pipe threads where pressure-tight joints are not made on the threads (1/8 inch to 6 inches).*

ISO 496, *Driving and driven machines — Shaft heights.*

ISO/R 775, *Cylindrical and 1/10 conical shaft ends.*

ISO 3069, *End-suction centrifugal pumps — Dimensions of cavities for mechanical seals and for soft packing.* (Supplement to this International Standard.)

NOTE — ISO 2084 can be used for the dimensions of flanges.

3 DESIGNATION

The pump designation comprises three numbers : the first corresponds to the inlet diameter, the second to the outlet diameter and the third to the nominal diameter of the impeller.

Example of designation

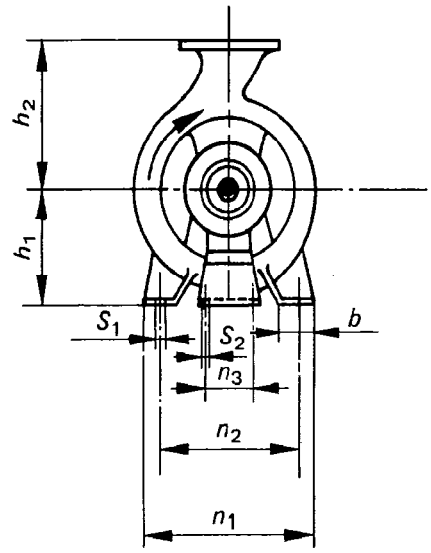
A centrifugal pump with an inlet diameter of 80 mm, an outlet diameter of 50 mm and a nominal impeller diameter of 250 mm is designated 80-50-250.

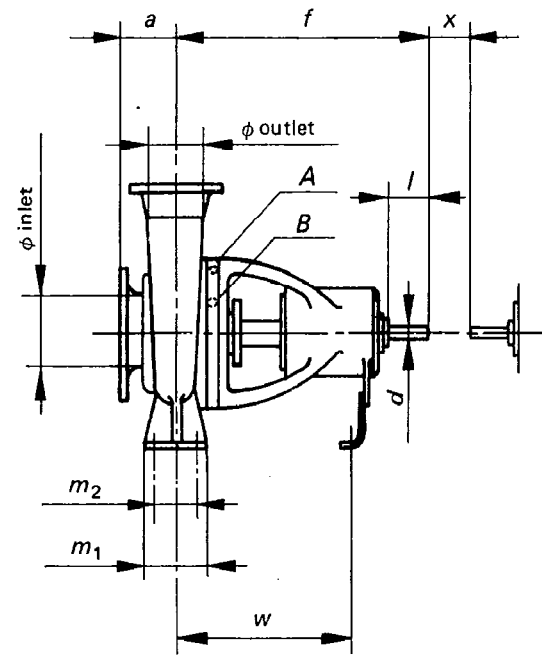
4 NOMINAL DUTY POINT AND DIMENSIONS

See figure below and table on page 2.

5 STATIC TEST PRESSURE

Static test pressure shall be 1,5 times the maximum discharge pressure but shall not exceed 24 bar. The relation between cold test pressure and hot operating pressure shall be the subject of agreement between manufacturer and user.





NOTE — Tapping points
All connections shall be in accordance with ISO/R 228.
A : Connection for cooling or heating supply to be 3/8 in.
B : Stuffing box tapping points to be as large as possible but not to exceed 1/2 in.

1) The manufacturer shall be consulted about the temperature limitation.
2) 1 bar = 0,1 MPa.

TABLE – Nominal duty point and dimensions

Size designation[2]			Nominal duty point				Dimensions in millimetres																
			n 1 450 min^{-1}		n 2 900 min^{-1}		Pump				Support							Clearance holes for bolts		Shaft end			
ϕ inlet	ϕ outlet	ϕ impeller (nominal)	Q	H	Q	H	a	f	h_1	h_2	b	m_1	m_2	n_1	n_2	n_3	w	S_1	S_2	d	l	x[1]
mm	mm	mm	m³/h	m	m³/h	m																	
50	32	125	6,3	5	12,5	20	80	385	112	140	50	100	70	190	140	110	285	M 12	M 12	24	50	100
50	32	160		8		32			132	160				240	190							
50	32	200		12,5		50			160	180												
50	32	250		20		80	100	500	180	225	65	125	95	320	250		370			32	80	
65	50 (40)[3]	125	12,5	5	25	20	80	385	112	140	50	100	70	210	160	110	285	M 12	M 12	24	50	100
65	50 (40)[3]	160		8		32			132	160				240	190							
65	40	200		12,5		50	100		160	180				265	212							
65	40	250		20		80		500	180	225	65	125	95	320	250		370			32	80	
65	40	315		32		125	125		200	250				345	280							
80	65 (50)[3]	125	25	5	50	20	100	385	132	160	50	100	70	240	190	110	285	M 12	M 12	24	50	100
80	65 (50)[3]	160		8		32			160	180				265	212							
80	50	200		12,5		50				200												
80	50	250		20		80	125	500	180	225	65	125	95	320	250		370			32	80	
80	50	315		32		125			225	280				345	280							
100	80 (65)[3]	125	50	5	100	20	100	385	160	180	65	125	95	280	212	110	285	M 12	M 12	24	50	100
100	80 (65)[3]	160		8		32				200							370			32	80	
100	65	200		12,5		50		500	180	225				320	250							140
100	65	250		20		80	125		200	250	80	160	120	360	280			M 16				
100	65	315		32		125		530	225	280				400	315					42	110	
optional 125	80	160	80	8	160	32	125	500	180	225	65	125	95	320	250	110	370	M 12	M 12	32	80	140
optional 125	80	200		12,5		50				250				345	280							
optional 125	80	250		20		80		500	225	280	80	160	120	400	315			M 16				
optional 125	80	315		32		125		530	250	315										42	110	
optional 125	80	400		50					280	355				435	355							
125	100	200	100[4] 125	12,5	200[4] 250	50	125	500	200	280	80	160	120	360	280	110	370	M 16	M 12	32	80	140
125	100	250		20		80	140	530	225					400	315					42	110	
125	100	315		32		125			250	315												
125	100	400		50					280	355	100	200	150	500	400			M 20				
150	125	250	200	20			140	530	250	355	80	160	120	400	315	110	370	M 16	M 12	42	110	140
150	125	315		32					280		100	200	150	500	400			M 20				
150	125	400		50					315	400												
200	150	250	315[4] 400	20			160	530	280	375	100	200	150	500	400	110	370	M 20	M 12	42	110	180
200	150	315		32				670	315	400				550	450	140	500		M 16	48		
200	150	400		50						450												

NOTES

a) The forms and dimensions not specified are left to the discretion of the manufacturer.

b) Rotation is clockwise when viewed from the driven end.

1) Gap necessary for the withdrawal of the rotor toward the driven side.

2) Flange rating 16 bar.

3) Branch sizes in brackets to be valid for a limited period only.

4) These two values are alternatives.