BRITISH STANDARD

BS EN ISO
2858:2010

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

ICS 23.080

National foreword

This British Standard is the UK implementation of EN ISO 2858:2010. It is identical to ISO 2858:1975. It supersedes BS EN 22858:1993 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/6, Pumps and pump testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Machinery and Components Standards Policy Committee, was published under the authority of the Standards Boardand comes into effect on 15 April 1993

ISBN 978 0 580 71457 3

Amendments/corrigenda issued since publication

Date	Comments
30 June 2011	This corrigendum renumbers BS EN 22858:1993 as BS EN ISO 2858:2010

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 2858

December 2010

ICS 23.080

Supersedes EN 22858:1993

English Version

End-suction centrifugal pumps (rating 16 bar) - Designation, nominal duty point and dimensions (ISO 2858:1975)

Pompes centrifuges à aspiration en bout (pression nominale 16 bar) - Désignation, point de fonctionnement nominal et dimensions (ISO 2858:1975)

Kreiselpumpen mit axialem Eintritt PN 16 - Bezeichnung, Nennleistung und Abmessungen (ISO 2858:1975)

This European Standard was approved by CEN on 4 December 2010.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 2858:2010: E

Foreword

The text of ISO 2858:1975 has been prepared by Technical Committee ISO/TC 115 "Pumps" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 2858:2010 by Technical Committee CEN/TC 197 "Pumps" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 22858:1993.

This document replaces and cancel the EN 22858 "End-suction centrifugal pumps (rating 16 bar) - designation, nominal duty point and dimensions (ISO 2858:1975)": its content is identical to the EN 22858, only the numbering of the standard has been changed, to be consistent with the ISO collection numbering.

Attention is drawn on the fact that some references cited in the standard have evolved:

ISO/R 228 replaced by ISO 228 (all parts)

ISO/R 775 has been cancelled

ISO 2084 replaced by "ISO 7005 (all parts)

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 2858:1975 has been approved by CEN as a EN ISO 2858:2010 without any modification.

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

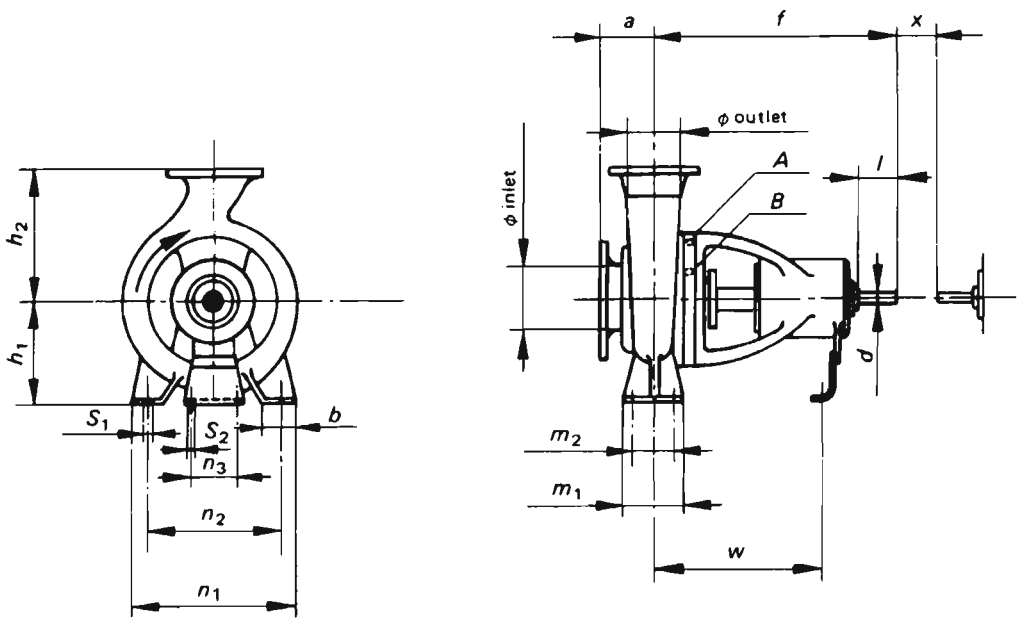
See figure on page 4 and Table on page 5.

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.

[1)] The manufacturer shall be consulted about the temperature limitation.

[2)] 1 bar = 0,1 MPa.



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.

Table — Nominal duty point and dimensions

	Size designation[2]			Nominal duty point				Dimensions in millimetres																	
	ϕ inlet	ϕ outlet	ϕ impeller (nominal)	n 1 450 min^{-1}		n 2 900 min^{-1}		Pump				Support							Clearance holes for bolts		Shaft end		
				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	m^3/h	m	m^3/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												
	100	65	200		12,5		50		500	180	225				320	250		370			32	80	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
	125	80	200		12,5		50				250				345	280							
	125	80	250		20		80			225	280	80	160	120	400	315			M 16				
	125	80	315		32		125		530	250	315										42	110	
	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.

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National annex NA (informative)
Committees responsible

The United Kingdom participation in the preparation of this European Standard was entrusted by the Machinery and Components Standards Policy Committee (MCE/-) to Technical Committee MCE/6, upon which the following bodies were represented:

Association of Consulting Engineers
Association of High Pressure Water Jetting Contractors
British Chemical Engineering Contractors' Association
British Hydromechanics Research Association
British Pump Manufacturers' Association
Department of Trade and Industry (National Engineering Laboratory)
Electricity Association
Energy Industries Council
UK Offshore Operators Association Limited
Water Services Association of England and Wales

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

British Rubber Manufacturers' Association Ltd.
Engineering Equipment and Materials Users' Association
Process Plant Association
South West Water Authority

National annex NB (informative)
Cross-references

Publication referred to	Corresponding British Standard
ISO/R 228	BS 2779:1986 *Specification for pipe threads for tubes and fittings where pressure-tight joints are not made on the threads (metric dimensions)*
ISO 496:1973	BS 5186:1975 *Specification for shaft centre heights*

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