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भाग 7 निर्माण के प्रकार, स्थापना व्यवस्थाएं और
टर्मिनल बॉक्स की स्थिति का वर्गीकरण
(आईएम कोड)

(दूसरा पुनरीक्षण)

Rotating Electrical Machines

Part 7 Classification of Types of
Construction, Mounting Arrangements
and Terminal Box Position (IM Code)

(Second Revision)

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NATIONAL FOREWORD

This Indian Standard (Part 7) (Second Revision) which is identical to IEC 60034-7 : 2020 'Rotating electrical machines — Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM Code)' issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Rotating Machinery Sectional Committee and approval of the Electrotechnical Division Council.

This Standard was first published in 1964 and subsequently revised in 1974. This revision has been undertaken to align the standard with the latest version of IEC.

This standard supersedes IS 2253 : 1974

The text of the IEC standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a. Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'; and
- b. Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

Only English language text has been retained while adopting it in this Indian Standard, and as such the page numbers given here are not the same as in the International Standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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Indian Standard

ROTATING ELECTRICAL MACHINES

**PART 7 CLASSIFICATION OF TYPES OF CONSTRUCTION,
MOUNTING ARRANGEMENTS AND TERMINAL BOX POSITION
(IM CODE)**

(*Second Revision*)

1 Scope

This part of IEC 60034 specifies the IM Code, a classification of types of construction, mounting arrangements and the terminal box position of rotating electrical machines.

Two systems of classification are provided as follows:

- Code I (see Clause 4): An alpha-numeric designation applicable to machines with end-shield bearing(s) and only one shaft extension.
- Code II (see Clause 5): An all-numeric designation applicable to a wider range of types of machines including types covered by Code I.

The type of machine not covered by Code II is fully described in words.

The relationship between Code I and Code II is given in Annex A.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

type of construction

arrangement of machine components with regard to fixings, bearing arrangement and shaft extension

[SOURCE: IEC 60050-411:1996, 411-43-34]

3.2

mounting arrangement

orientation on site of the machine as the whole with regard to shaft alignment and position of fixings

[SOURCE: IEC 60050-411:1996, 411-43-35]

3.3

shaft extension

portion of a shaft extending beyond an extreme bearing

Note 1 to entry: The bearing may be on the machine itself or be part of an assembly comprising a machine and (an) additional bearing(s).

[SOURCE: IEC 60050-411:1996, 411-43-07]

3.4

drive-end of a machine

D-end

that end of the machine which accommodates the shaft end

Note 1 to entry: This is normally the driving end of a motor or the driven end of a generator.

Where for some machines the above definition is inadequate, the D-end is defined as follows:

- a) Machine with two shaft extensions of different diameter: the end with the larger shaft diameter;
- b) Machine with a cylindrical shaft extension and a conical shaft extension of the same diameter: the end with cylindrical shaft extension;
- c) Machine with other arrangements: according to IEC 60034-8 if applicable; otherwise by agreement.

Note 2 to entry: The outer diameter of a forged-on flange is taken to be the diameter of the shaft extension.

[SOURCE: IEC 60050-411:1996, 411-43-36]

3.5

non-drive end of the machine

N-end

that end of the machine opposite to the drive end

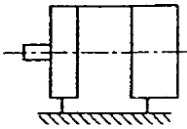
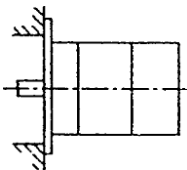
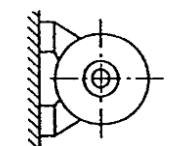
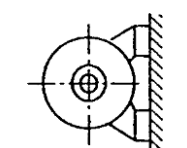
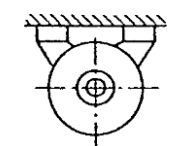
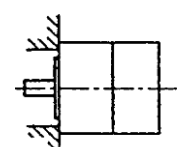
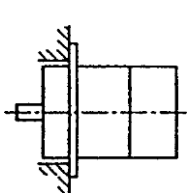
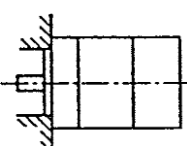
[SOURCE: IEC 60050-411:1996, 411-43-37]

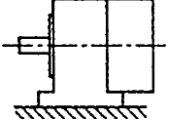
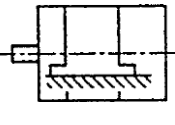
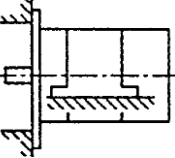
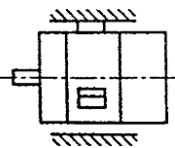
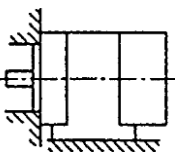
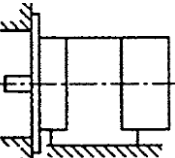
4 Code I (alpha-numeric designation)

4.1 Designation of machines with horizontal shafts

In Code I, a machine with a horizontal shaft is designated by the code letters IM (International Mounting), followed by a space, the letter B, one or two numerals as shown in Table 1 and an optional letter as shown in 4.3.

Table 1 – Designations for machines with horizontal shafts (IM B...)

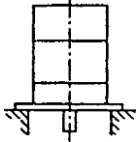
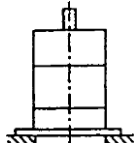
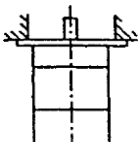
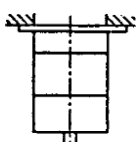
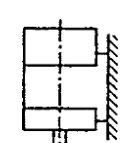
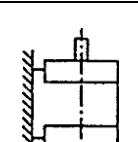
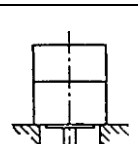
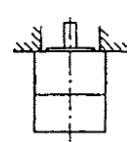
Designation	Sketch	Type of construction				Mounting arrangement (Horizontal shaft)
		Number of endshields bearings	Feet	Flange	Other details	
IM B3		2	With feet	–	–	Mounted by feet, feet down
IM B5		2	–	With flange	Endshield flange at D-end with access to back	Mounted on D-end side of flange
IM B6		2	With feet	–	–	Mounted by feet, feet left (viewed from D-end)
IM B7		2	With feet	–	–	Mounted by feet, feet right (viewed from D-end)
IM B8		2	With feet	–	–	Mounted by feet, feet up
IM B9		1	–	–	No endshield or bearing at D-end	Mounted on end face of frame at D-end
IM B10		2	–	With flange	Special flange at D-end	Mounted on D-end side of flange
IM B14		2	–	With flange	Endshield spigot. No access to back Flange at D-end	Mounted on D-end side of flange

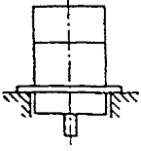
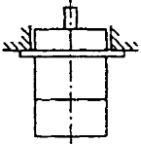
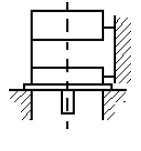
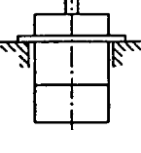
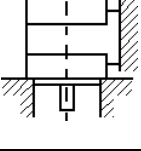
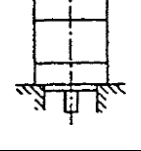
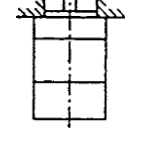
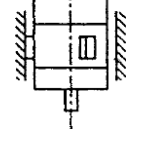
Designation	Sketch	Type of construction				Mounting arrangement (Horizontal shaft)
		Number of endshields bearings	Feet	Flange	Other details	
IM B15		1	With feet	–	No endshield or bearing at D-end. Additional mounting provisions on D-end of frame	Mounted by feet, feet down, with additional mounting on end face of frame
IM B20		2	With raised feet	–	–	Mounted by feet, feet down
IM B25		2	With raised feet	With flange	Endshield flange at D-end with access to back	Mounted by feet, feet down, with additional mounting on flange
IM B30		2	–	–	3 or 4 pads on endshield(s) or frame	Pad mounted
IM B34		2	With feet	With flange	Endshield spigot No access to back Flange at D-end	Mounted by feet, feet down, with additional mounting on D-end side of flange
IM B35		2	With feet	With flange	Endshield flange at D-end with access to back	Mounted by feet, feet down, with additional mounting on D-end side of flange

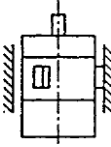
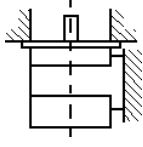
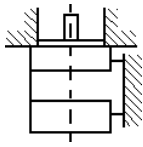
4.2 Designation of machines with vertical shafts

In Code I, a machine with a vertical shaft is designated by the code letters IM (International mounting), followed by a space, the letter V, one or two numerals as shown in Table 2 and an optional letter as shown in 4.3.

Table 2 – Designations for machines with vertical shafts (IM V...)

Designation	Sketch	Type of construction				Mounting arrangement (Vertical shaft)
		Number of endshields bearings	Feet	Flange	Other details	
IM V1		2	–	With flange	Endshield flange at D-end with access to back	Mounted on D-end side of flange, D-end down
IM V2		2	–	With flange	Endshield flange at N-end with access to back	Mounted on N-end side of flange, D-end up
IM V3		2	–	With flange	Endshield flange at D-end with access to back	Mounted on D-end side of flange, D-end up
IM V4		2	–	With flange	Endshield flange at N-end with access to back	Mounted on N-end side of flange, D-end down
IM V5		2	With feet	–	–	Mounted by feet, D-end down
IM V6		2	With feet	–	–	Mounted by feet, D-end up
IM V8		1	–	–	No endshield or bearing at D-end	Mounted on end face of frame at D-end, D-end down
IM V9		1	–	–	No endshield or bearing at D-end	Mounted on end face of frame at D-end, D-end up

Designation	Sketch	Type of construction				Mounting arrangement (Vertical shaft)
		Number of end-shields bearings	Feet	Flange	Other details	
IM V10		2	–	With flange	Special flange at D-end	Mounted on D-end side of flange, D-end down
IM V14		2	–	With flange	Special flange at D-end	Mounted on D-end side of flange, D-end up
IM V15		2	With feet	With flange	Endshield flange at D-end with access to back	Mounted by feet, with additional mounting on D-end side of flange, D-end down
IM V16		2	–	With flange	Special flange at D-end	Mounted on N-end side of flange, D-end up
IM V17		2	With feet	With flange	Endshield spigot no access to back Flange at D-end	Mounted by feet, with additional mounting on D-end side of flange, D-end down
IM V18		2	–	With flange	Endshield spigot no access to back Flange at D-end	Mounted on D-end side of flange, D-end down
IM V19		2	–	With flange	Endshield spigot No access to back Flange at D-end	Mounted on D-end side of flange, D-end up
IM V30		2	–	–	3 or 4 pads on endshield(s) or frame	Pad-mounted D-end down

Designation	Sketch	Type of construction				Mounting arrangement (Vertical shaft)
		Number of endshields bearings	Feet	Flange	Other details	
IM V31		2			3 or 4 pads on endshield(s) or frame	Pad-mounted, D-end up
IM V36		2	With feet	With flange	Endshield flange at D-end with access to back	Mounted by feet, with additional mounting on D-end side of flange, D-end up
IM V37		2	With feet	With flange	Endshield spigot no access to back Flange at D-end	Mounted by feet, with additional mounting on D-end side of flange, D-end up

4.3 Terminal box location

When designated, the terminal box position shall be coded with a final letter in accordance with the following rules:

- machines with feet shall be viewed from the D-end with the feet at 6 o'clock;
- machines with flange only and with drains shall be viewed from the D-end and with the drains at 6 o'clock;
- other configurations shall not have a coding.

The coding shall conform to Table 3.

Table 3 – Code letter for terminal box location

Letter designation	Terminal box location	
R	Right	3 o'clock
B	Bottom	6 o'clock
L	Left	9 o'clock
T	Top	12 o'clock
None	Unspecified	

5 Code II (all-numeric designation)

5.1 Designation

In Code II, a machine is designated by the Code letters IM (International Mounting) followed by a space and four numerals.

The first, second and third numerals designate aspects of construction (see 5.2 and 5.4).

The fourth numeral designates the type of shaft extension (see 5.3).

When used, a letter following the four numerals shall designate the terminal box position, see 5.5.

5.2 Significance of the first numeral

The significance of the first numeral is given in Table 4.

Table 4 – Significance of the first numeral

First numeral	Significance	Table relevant to the second and third numerals
0	Not allocated	–
1	Foot-mounted machines with endshield bearing(s) only	6
2	Foot-and-flange-mounted machines with endshield bearing(s) only	7
3	Flange-mounted machines with endshield bearing(s) only, with a flange part of an endshield	8
4	Flange-mounted machines with endshield bearing(s) only, with a flange not part of an endshield but an integral part of the frame or other component	9
5	Machines without bearings	10
6	Machines with endshield bearing(s) and pedestral bearing(s)	11
7	Machines with pedestal bearing(s) only	12
8	Vertical machines of construction not covered by first numeral 1 to 4	13
9	Machines with special mounting arrangements	14

5.3 Significance of the fourth numeral

The significance of the fourth numeral is given in Table 5.

Table 5 – Significance of the fourth numeral

Fourth numeral	Significance
0	No shaft extension
1	One cylindrical shaft extension
2	Two cylindrical shaft extensions
3	One conical shaft extension
4	Two conical shaft extensions
5	One flanged shaft extension
6	Two flanged shaft extensions
7	Flanged shaft extension (D-end) and cylindrical shaft extension (N-end)
8	(Not allocated)
9	Other arrangement

5.4 Significance of the second and third numerals

The significance of the second and third numerals is specified in Table 6 to Table 14 depending on the first numeral with which they are associated (see Table 4).

NOTE Rolling mill main motors can be used in a twin arrangement, where one of the upper/lower twin motors or the side-by-side twin motors drives the upper roll for the rolling mill, while the other drives the lower roll for the mill, so that the completely same speed control response for both twin motors can be obtained.

5.5 Terminal box location

See the information of 4.3.

5.6 Examples of designations

In Table 6 through Table 14, common types of construction and mounting arrangements are illustrated by sketches, and their designations are given using a particular fourth numeral. Other fourth numerals could be applicable (see Table 5). The absence of a sketch does not imply that a designation is not available.

Numerals to which a significance has been allocated in the appropriate tables may be combined to form a valid designation. Some of these designations may be impracticable.

5.7 Inclination or declination of shaft

Machines whose shaft orientation is other than horizontal (0°) or vertical ($\pm 90^\circ$) shall have their IM code followed by the appropriate angle designation referenced to the drive end, such as:

- IM1001 $+7,5^\circ$ (positive degrees always means DE-shaft up, i. e. inclination of shaft)
- IM7311 $-7,5^\circ$ (negative degrees always means DE-shaft down, i. e. declination of shaft).

NOTE An inclination or declination may require special bearing design as the bearings carry an additional thrust load caused by the gravity force of the machine's rotor.

**Table 6 – Significance of second and third numerals for first numeral 1
(Foot-mounted machines with endshield bearing(s) only)**

Machine construction		Second numeral	Designation and sketch (see 3.5)									
Number of bearings	Feet (gearbox)		Third numeral									
			0 (Shaft horizontal, feet down)	1 (D-end down)	2	3 (D-end up)	4	5 (D-end left, feet at back)	6 (D-end right, feet at back)	7 (Shaft horizontal, feet up)	8	9
2	Normal feet (no gearbox)	0	IM 1001 	IM 1011 		IM 1031 		IM 1051 	IM 1061 	IM 1071 		
2	Raised feet (no gearbox)	1	IM 1101 			-						
1	Normal feet (no gearbox)	2	IM 1201 	IM 1211 		IM 1231 		IM 1251 	IM 1261 	IM 1271 		
1	Raised feet (no gearbox)	3	IM 1301 									
	(Not allocated)	4	-	-		-		-	-	-		
	(Not allocated)	5	-	-		-		-	-	-		
2	Normal feet, integral gearbox with output shaft parallel to input shaft	6	IM 1601 	IM 1611 		IM 1631 		IM 1651 	IM 1661 	IM 1671 		
2	Normal feet, integral gearbox with output shaft at right angles to input shaft	7	IM 1701 	IM 1711 		IM 1731 		IM 1751 	IM 1761 	IM 1771 		
	(Not allocated)	8	-	-		-		-	-	-		
	(Non allocated)	9	-	-		-		-	-	-		

Suitable for operation in accordance with third numerals 0 and 1

Suitable for operation in accordance with third numerals 0, 1 and 3

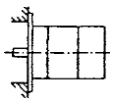
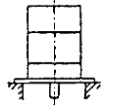
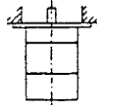
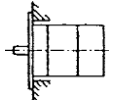
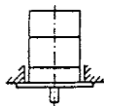
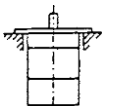
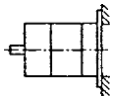
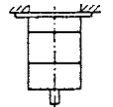
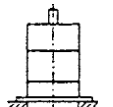
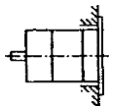
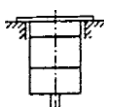
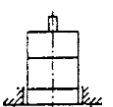
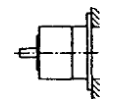
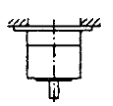
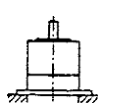
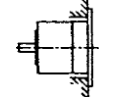
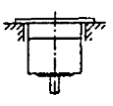
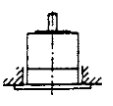
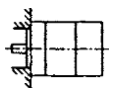
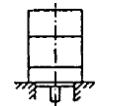
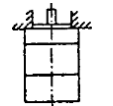
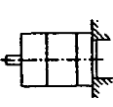
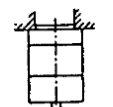
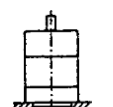
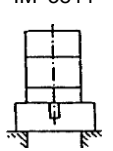
Suitable for operation in accordance with third numerals 0, 1, 3, 5, 6 and 7

Not covered by third numerals 0 to 8 – inclination of shaft not specified

**Table 7 – Significance of second and third numerals for first numeral 2
(Foot-and-flange-mounted machines with endshield bearing(s) only)**

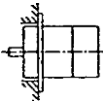
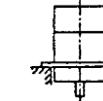
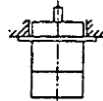
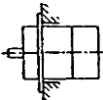
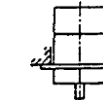
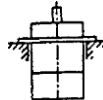
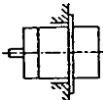
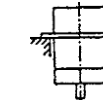
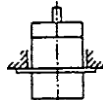
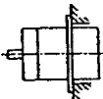
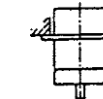
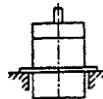
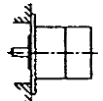
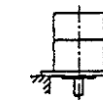
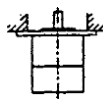
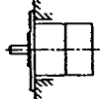
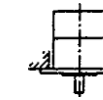
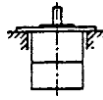
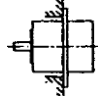
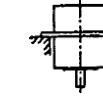
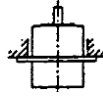
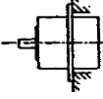
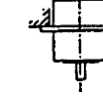
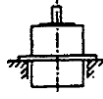
Machine construction		Second numeral	Designation and sketch (see 3.5)										
Feet	Number of flanges and access thereto		Third numeral										
			0 (Shaft horizontal, feet down)	1 (D-end down)	2	3 (D-end up)	4	5 (D-end left, feet at back)	6 (D-end right, feet at back)	7 (Shaft horizontal, feet up)	8	9	
Normal feet	1 flange, access to back	0	IM 2001 	IM 2011 		IM 2031 		IM 2051 	IM 2061 	IM 2071 			
Normal feet	1 flange, no access to back	1	IM 2101 	IM 2111 		IM 2131 		IM 2151 	IM 2161 	IM 2171 			
Normal feet	2 flanges, access to back	2	IM 2202 	IM 2212 		IM 2232 		IM 2252 	IM 2262 	IM 2272 			
Normal feet	2 flanges, no access to back	3	IM 2302 	IM 2312 		IM 2332 		IM 2352 	IM 2362 	IM 2372 			
Raised feet	1 flange, access to back	4	IM 2401 										
(Not allocated)		5	–	–		–		–	–	–			
(Not allocated)		6	–	–		–		–	–	–			
			Suitable for operation in accordance with third numerals 0 and 1			Suitable for operation in accordance with third numerals 0, 1 and 3			Suitable for operation in accordance with third numerals 0, 1, 3, 5, 6 and 7			Not covered by third numerals 0 to 8 – inclination of shaft not specified	

**Table 8 – Significance of second and third numerals for first numeral 3
(Flange-mounted machines with endshield bearing(s) only
with a flange part of an endshield)**

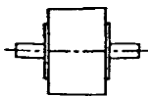
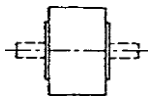
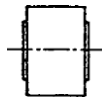
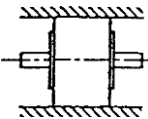
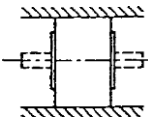
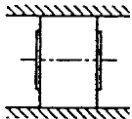
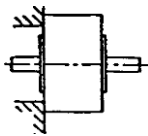
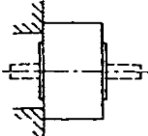
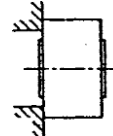
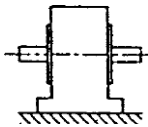
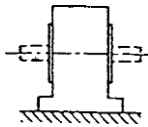
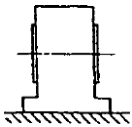
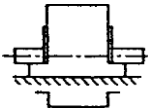
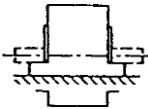
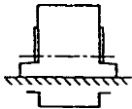
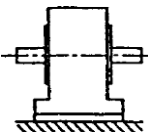
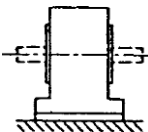
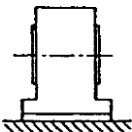
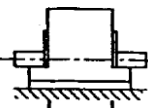
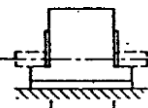
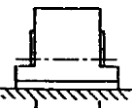
Machine construction				Second numeral	Designation and sketch (see 3.5)						
Number of bearings	Flange position	Access to back of flange	Face of flange faces towards		Third numeral						
					0 (Shaft horizontal)	1 (D-end down)	2	3 (D-end up)	4	5 to 8 (Not allocated)	9
2	D-end	Yes	D-end	0	IM 3001 	IM 3011 	Suitable for operation in accordance with third numerals 0 and 1	IM 3031 	Suitable for operation in accordance with third numerals 0, 1 and 3	(Not allocated)	9
2	D-end	Yes	N-end	1	IM 3101 	IM 3111 		IM 3131 			
2	N-end	Yes	N-end	2	IM 3201 	IM 3211 		IM 3231 			
2	N-end	Yes	D-end	3	IM 3301 	IM 3311 		IM 3331 			
1	N-end	Yes	N-end	4	IM 3401 	IM 3411 		IM 3431 			
1	N-end	Yes	D-end	5	IM 3501 	IM 3511 		IM 3531 			
2	D-end	No	D-end	6	IM 3601 	IM 3611 		IM 3631 			
2	N-end	No	N-end	7	IM 3701 	IM 3711 		IM 3731 			
2	D-end skirt part of endshield ¹⁾	Yes	D-end	8		IM 3811 					

¹⁾ Second numeral 8 is the same as second numeral 0 except for the skirt.

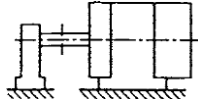
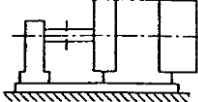
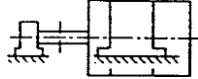
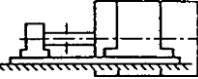
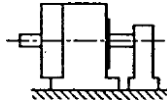
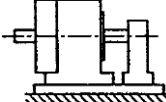
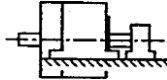
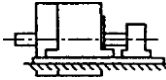
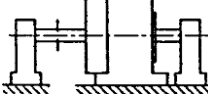
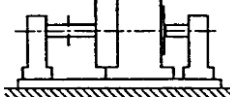
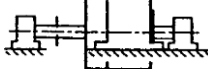
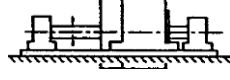
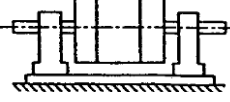
**Table 9 – Significance of second and third numerals for first numeral 4
(Flange-mounted machines with endshield bearing(s) only with a flange not part
of an endshield, but an integral part of the frame or other component)**

Machine construction				Second numeral	Designation and sketch (see 3.5)						
Number of bearings	Flange position	Access to back of flange	Face of flange faces towards		Third numeral						
					0 (Shaft horizontal)	1 (D-end down)	2	3 (D-end up)	4	5 to 8 (Not allocated)	9
2	D-end	Yes	D-end	0	IM 4001 	IM 4011 	Suitable for operation in accordance with third numerals 0 and 1	IM 4031 	Suitable for operation in accordance with third numerals 0, 1 and 3	(Not allocated)	Not covered by third numerals 0 to 4 – inclination of shaft not specified
2	D-end	Yes	N-end	1	IM 4101 	IM 4111 		IM 4131 			
2	N-end	Yes	D-end	2	IM 4201 	IM 4211 		IM 4231 			
2	N-end	Yes	N-end	3	IM 4301 	IM 4311 		IM 4331 			
1	D-end	Yes	D-end	4	IM 4401 	IM 4411 		IM 4431 			
1	D-end	Yes	N-end	5	IM 4501 	IM 4511 		IM 4531 			
1	N-end	Yes	D-end	6	IM 4601 	IM 4611 		IM 4631 			
1	N-end	Yes	N-end	7	IM 4701 	IM 4711 		IM 4731 			
(Not allocated)				8	-	-		-			

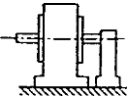
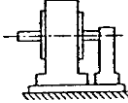
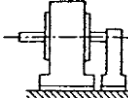
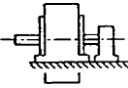
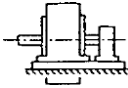
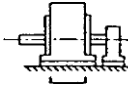
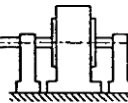
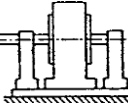
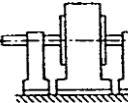
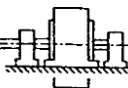
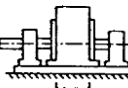
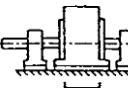
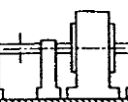
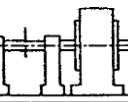
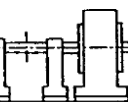
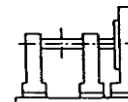
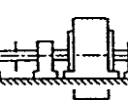
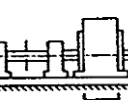
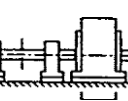
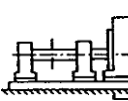
**Table 10 – Significance of second and third numerals for first numeral 5
(Machines without bearings)**

Machine construction		Second numeral	Designation and sketch (see 3.5)		
Frame	Mounting arrangement		Third numeral		
			0 (With rotor, with shaft)	1 (With rotor, without shaft)	2 (Stator only)
Without frame	Not specified	0	IM 5002 	IM 5010 	IM 5020 
With frame	With cylindrical support	1	IM 5102 	IM 5110 	IM 5120 
With frame	On end-face of frame at D-end	2	IM 5202 	IM 5210 	IM 5220 
(Not allocated)		3	–	–	–
With frame	By normal feet	4	IM 5402 	IM 5410 	IM 5420 
With frame	By raised feet	5	IM 5502 	IM 5510 	IM 5520 
With frame	By normal feet and sole-plates	6	IM 5602 	IM 5610 	IM 5620 
With frame	By raised feet and sole-plates	7	IM 5702 	IM 5710 	IM 5720 

**Table 11 – Significance of second and third numerals for first numeral 6
(Machines with endshield bearings and pedestal bearings)**

Machine construction			Second numeral	Designation and sketch (see 3.5)	
Feet	Number of endshield bearings	Number of pedestal bearings		Third numeral	
				0 (Without bedplate)	1 (With bedplate)
Normal feet	2	1 (D-end)	0	IM 6000 	IM 6010 
Raised feet	2	1 (D-end)	1	IM 6100 	IM 6110 
Normal feet	1 (D-end)	1 (N-end)	2	IM 6201 	IM 6211 
Raised feet	1 (D-end)	1 (N-end)	3	IM 6301 	IM 6311 
(Not allocated)			4	–	–
(Not allocated)			5	–	–
Normal feet	1 (D-end)	2	6	IM 6600 	IM 6610 
Raised feet	1 (D-end)	2	7	IM 6700 	IM 6710 
Without feet	2	2	8	–	IM 6811 

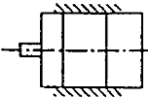
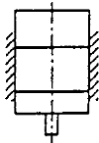
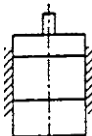
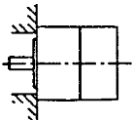
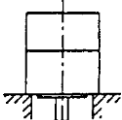
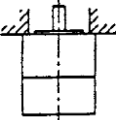
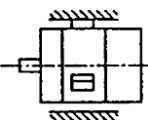
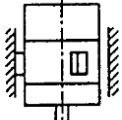
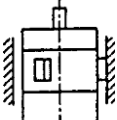
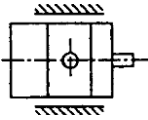
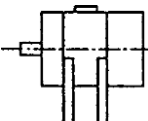
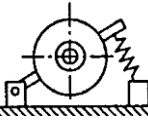
**Table 12 – Significance of second and third numerals for first numeral 7
(Machines with pedestal bearings only)**

Machine construction		Second numeral	Designation and sketch (see 3.5)			
Feet	Number of pedestal bearings		Third numeral			
			0 (Without bedplate without sole-plates)	1 (With bedplate)	2 (With sole-plate)	3 (With bedplate with sole-plate)
Normal feet	1	0	IM 7001 	IM 7011 	IM 7021 	
Raised feet	1	1	IM 7101 	IM 7111 	IM 7121 	
Normal feet	2	2	IM 7201 	IM 7211 	IM 7221 	
Raised feet	2	3	IM 7301 	IM 7311 	IM 7321 	
Normal feet	3	4	IM 7400 	IM 7410 	IM 7420 	IM 7430 
Raised feet	3	5	IM 7500 	IM 7510 	IM 7520 	IM 7530 

**Table 13 – Significance of second and third numerals for first numeral 8
(Vertical machines of construction not covered by first numerals 1 to 4)**

Machine construction			Second numeral	Designation and sketch (see 3.5)				
Thrust bearing position	Shaft	Fly-wheel		Third numeral				
				0 (One guide bearing below rotor)	1 (One guide bearing above rotor)	2 (Two guide bearings, one above and one below rotor)	3 (Two guide bearings below rotor)	4 (No guide bearing)
Without thrust bearing	With shaft	Without flywheel	0	IM 8001 	IM 8011 	IM 8021 	IM 8031 	IM 8041
Without thrust bearing	Without shaft	Without flywheel	1	IM 8100 	IM 8110 	IM 8120 		IM 8140
Below rotor	With shaft	Without flywheel	2	IM 8201 	IM 8211 	IM 8221 	IM 8231 	
Below rotor	Without shaft	Without flywheel	3	IM 8300 	IM 8310 	IM 8320 		
Above rotor	With shaft	Without flywheel	4		IM 8411 	IM 8421 		
Above rotor	Without shaft	Without flywheel	5		IM 8510 			
Above rotor	With shaft	With flywheel	6			IM 8621 		
Above rotor	With shaft	With flywheel	7			IM 8721 		
Above rotor	Without shaft	With flywheel	8			IM 8820 		

**Table 14 – Significance of second and third numerals for first numeral 9
(Machines with special mounting arrangements)**

Machine construction		Second numeral	Designation and sketch (see 3.5)						
Number of endshield bearings	Mounting arrangement		Third numeral						
			0 (Shaft horizontal)	1 (D-end down)	2	3 (D-end up)	4	5 to 8 (Not allocated)	9
2	With cylindrical frame for building-in	0	IM 9001 	IM 9011 	Suitable for operation in accordance with third numerals 0 and 1	IM 9031 	Suitable for operation in accordance with third numerals 0, 1 and 3	-	Not covered by third numerals 0 to 4 – inclination of shaft not specified
1	For mounting on end face of frame at D-end	1	IM 9101 	IM 9111 		IM 9131 		-	
2	By pads	2	IM 9201 	IM 9211 		IM 9231 		-	
2	By trunnions	3	IM 9301 					-	
2	By axle suspension	4	IM 9401 					-	
2	By pendulum suspension	5	IM 9501 					-	

Annex A
(informative)

Relationship between Code I and Code II

The relationship between Code I and Code II is given in Table A.1 and Table A.2.

Table A.1 – Relationship between Code I and Code II for machines with horizontal shafts (IM B...)

Code I	Code II
IM B3	IM 1001
IM B5	IM 3001
IM B6	IM 1051
IM B7	IM 1061
IM B8	IM 1071
IM B9	IM 9101
IM B10	IM 4001
IM B14	IM 3601
IM B15	IM 1201
IM B20	IM 1101
IM B25	IM 2401
IM B30	IM 9201
IM B34	IM 2101
IM B35	IM 2001

Table A.2 – Relationship between Code I and Code II for machines with vertical shafts (IM V...)

Code I	Code II
IM V1	IM 3011
IM V2	IM 3231
IM V3	IM 3031
IM V4	IM 3211
IM V5	IM 1011
IM V6	IM 1031
IM V8	IM 9111
IM V9	IM 9131
IM V10	IM 4011
IM V14	IM 4031
IM V15	IM 2011
IM V16	IM 4131
IM V17	IM 2111
IM V18	IM 3611
IM V19	IM 3631
IM V30	IM 9211
IM V31	IM 9231
IM V35	IM 2031
IM V37	IM 2131

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