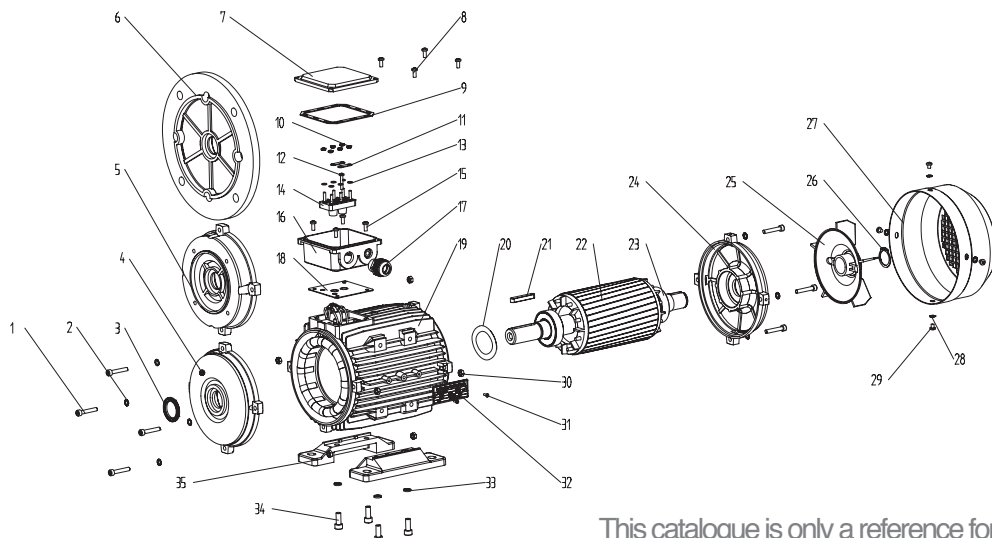


**MS SERIES**  
**2 SPEEDS CONSTANT**  
**MOTORS**

# MOTOR SPARE PART LIST "EXPLODED DRAWING"



- |                               |                             |
|-------------------------------|-----------------------------|
| 1. Screw                      | 21. Key                     |
| 2. Gasket                     | 22. Rotor                   |
| 3. Oil seal                   | 23. Bearing                 |
| 4. Front endshield            | 24. NDE endshield           |
| 5. B14 flange                 | 25. Cooling fan             |
| 6. B5 flange                  | 26. Fan clip                |
| 7. TB cover                   | 27. Fan cover               |
| 8. TB fixing screws           | 28. Fan cover fixing shim   |
| 9. TB upper gasket            | 29. Fan cover fixing screws |
| 10. Terminal board fixing nut | 30. Endshield fixing nut    |
| 11. Terminal bridge           | 31. Rivet                   |
| 12. Terminal pin              | 32. Nameplate               |
| 13. Terminal shim             | 33. Foot fixing nut         |
| 14. Terminal board            | 34. Foot fixing screws      |
| 15. TB fixing screws          | 35. Foot                    |
| 16. TB base                   |                             |
| 17. Cable gland               |                             |
| 18. TB bottom gasket          |                             |
| 19. Frame                     |                             |
| 20. Preload washer            |                             |

This catalogue is only a reference for users.  
The concrete data be changed please contact with us before ordering.

## MOUNTINGS AND POSITIONS

Mountings and positions for standard motors, according to IEC 60034-7, are defined by the codes mentioned in the following table.

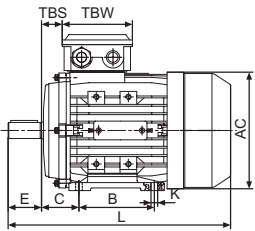
	Standards			Frame Sizes
	CEI 2-14	IEC 60034-7		56-200
		Code I	Code II	
	B3	IM B3	IM 1001	Standard
	B3/B5	IM B35	IM 2001	Standard
	B5	IM B5	IM 3001	Standard
	B14	IM B14	IM 4001	Standard
	B8	IM B8	IM 1071	Upon request
	B6	IM B6	IM 1051	Upon request
	B7	IM B7	IM 1061	Upon request

	Standards			Frame Sizes
	CEI 2-14	IEC 60034-7		56-200
		Code I	Code II	
	V1	IM V1	IM 3011	Standard
	V3	IM V3	IM 3031	Upon request
	V5	IM V5	IM 1011	Upon request
	V6	IM V6	IM 1031	Upon request
	V1/V5	IM V15	IM 2011	Upon request

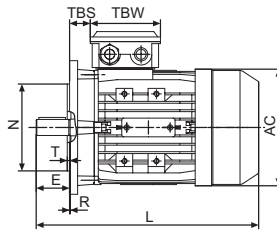
### Aluminum Housing Electric Motors Bearings & Oil Seals

Frame	Bearings		Oil Seals	
	Drive End	Non-drive End	Drive End	Non-drive End
56	6201	6201	12×22×5	12×22×5
63	6201	6201	12×24×5	12×24×5
71	6202	6202	15×25×7	15×25×7
80	6204	6204	20×34×7	20×34×7
90S	6205	6205(6204)**	25×37×7	25×37×7(20×34×7)**
90L	6205	6205(6204)**	25×37×7	25×37×7(20×34×7)**
100L	6206	6206	30×44×7	30×44×7
112M	6306	6206(6306)	30×44×7	30×44×7
132S	6308	6208(6308)	40×58×7	40×58×7
132M/L	6308	6208(6308)	40×58×7	40×58×7
160M	6309	6309	45×65×8	45×65×8
160L	6309	6309	45×65×8	45×65×8
180M	6311	6211	55×72×8	55×72×8
180L	6311	6211	55×72×8	55×72×8
200L	6312	6212	60×80×8	60×80×8

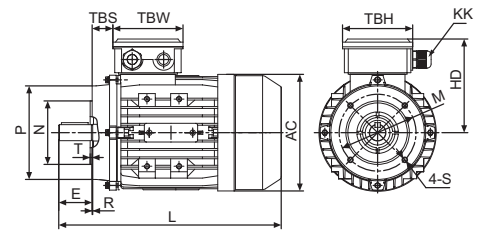
# MS SERIES DIMENSIONAL DRAWINGS



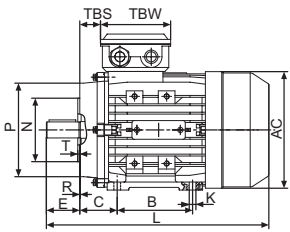
IM B3



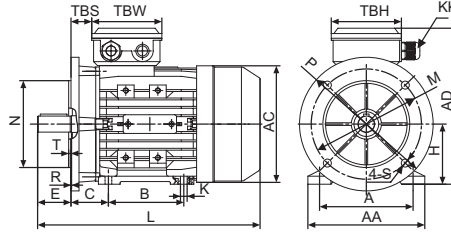
IM B5



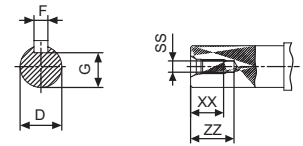
IM B14



IM B34



IM B35



## OVERALL & INSTALLATION DIMENSION

Frame	Foot Mounting					Shaft							General								
	H	A	B	C	K	D	E	F	G	SS	XX	ZZ	AA	AD	HD	AC	L	KK	TBS	TBW	TBH
56	56	90	71	36	5.8X8.8	Ø9	20	3	7.2	M3	9	12	110	156	100	Ø117	196	1-M16X1.5	14	88	88
63	63	100	80	40	7X10	Ø11	23	4	8.5	M4	10	14	120	171	108	Ø130	220	1-M16X1.5	14	94	94
71**	71	112	90	45	7X10	Ø14	30	5	11	M5	12	17	132	186	115	Ø147	241(255)	1-M20X1.5	20	94	94
80	80	125	100	50	10X13	Ø19	40	6	15.5	M6	16	21	160	213	133	Ø163	290	1-M20X1.5	27	105	105
90S	90	140	100	56	10X13	Ø24	50	8	20	M8	19	25	175	229	139	Ø183	312	1-M20X1.5	30	105	105
90L1/L2	90	140	125	56	10X13	Ø24	50	8	20	M8	19	25	175	229	139	Ø183	337/367	1-M20X1.5	30	105	105
100**	100	160	140	63	12X15	Ø28	60	8	24	M10	22	30	198	252	152	Ø205	369(387)	2-M20X1.5	26	105	105
112	112	190	140	70	12X15	Ø28	60	8	24	M10	22	30	220	279	167	Ø229	395	2-M25X1.5	32	112	112
132S	132	216	140	89	12X15	Ø38	80	10	33	M12	28	37	252	318	186	Ø265	437	2-M25X1.5	38	112	112
132M/L	132	216	178	89	12X15	Ø38	80	10	33	M12	28	37	252	318	186	Ø265	475/501	2-M25X1.5	38	112	112
160M/L	160	254	210/254	108	15X19	Ø42	110	12	37	M16	36	45	290	384	224	Ø325	640	2-M32X1.5	64	143	143
180M/L	180	279	241/279	121	15X25	Ø48	110	14	42.5	M16	36	45	340	440	260	Ø368	730	2-M32X1.5	73	190	190
200L	200	318	305	133	19X29	Ø55	110	16	49	M20	42	53	390	460	260	Ø368	745	2-M40X1.5	85	190	190

Frame	B5						B5R					B14					B14B								
	M	N	P	T	S	R	M	N	P	T	S	R	N	M	P	T	S	R	N	M	P	T	S	R	
56	Ø100	Ø80	Ø120	3.0	Ø7	0							Ø50	Ø65	Ø80	2.5	M5	0							
63	Ø115	Ø95	Ø140	3.0	Ø10	0							Ø60	Ø75	Ø90	2.5	M5	0	Ø80	Ø100	Ø120	3.0	M6	0	
71**	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø115	Ø95	Ø140	3.5	Ø10	0	Ø70	Ø85	Ø105	2.5	M6	0	Ø95	Ø115	Ø140	3.0	M8	0	
80	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø80	Ø100	Ø120	3.0	M6	0	Ø110	Ø130	Ø160	3.5	M8	0	
90S	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø95	Ø115	Ø140	3.0	M8	0	Ø110	Ø130	Ø160	3.5	M8	0	
90L1/L2	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø95	Ø115	Ø140	3.0	M8	0	Ø110	Ø130	Ø160	3.5	M8	0	
100**	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø165	Ø130	Ø200	4.0	Ø12	0	Ø110	Ø130	Ø160	3.5	M8	0	Ø130	Ø165	Ø200	3.5	M10	0	
112	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø165	Ø130	Ø200	4.0	Ø12	0	Ø110	Ø130	Ø160	3.5	M8	0	Ø130	Ø165	Ø200	3.5	M10	0	
132S	Ø265	Ø230	Ø300	4.0	Ø15	0	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø130	Ø165	Ø200	4.0	M10	0	Ø180	Ø215	Ø250	4.0	M12	0	
132M/L	Ø265	Ø230	Ø300	4.0	Ø15	0	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø130	Ø165	Ø200	4.0	M10	0	Ø180	Ø215	Ø250	4.0	M12	0	
160M/L	Ø300	Ø250	Ø350	5.0	Ø19	0							Ø180	Ø215	Ø250	4.0	M12	0							
180M/L	Ø300	Ø250	Ø350	5.0	Ø19	0																			
200L	Ø350	Ø300	Ø400	5.0	Ø19	0																			

\*\* This frame size has two housing sizes, the rated output is for normal "L" size, and increased output is for the bigger "L" size (refer to the figures in the bracket "()")

# MS SERIES IE1 • IE2

## THREE-PHASE ASYNCHRONOUS DOUBLE-POLARITY MOTORS ALUMINUM HOUSING

**MS series** aluminum housing three-phase asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard.

MS motors have good performance, safety and reliable operation, nice appearance, and can be maintained very conveniently, while with low noises, little vibration and at the same time light weight and simple construction. These series motors can be used for general drive.

### TECHNICAL DATA (AT 400V/50Hz)

Model	Power (KW)		Speed (r/min)		Eff. (%)		Power Factor (CosΦ)		Current (A)		Rated Torque (N.M)		T <sub>st</sub> /T <sub>n</sub> (Times)		I <sub>st</sub> /I <sub>n</sub> (Times)		T <sub>max</sub> /T <sub>n</sub> (Times)	
	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P
MS 711-2/4	0.3	0.22	2750	1350	60	55	0.8	0.73	0.90	0.79	1.04	1.56	1.7	1.7	3.5	3.5	1.9	1.9
MS 712-2/4	0.45	0.3	2790	1380	63	58	0.8	0.73	1.29	1.02	1.54	2.08	2	2	4	4	2	2
MS 801-2/4	0.55	0.45	2800	1380	65	64	0.84	0.75	1.45	1.35	1.88	3.11	2	2	4.5	4.5	2.1	2.1
MS 802-2/4	0.75	0.6	2800	1400	67	68	0.86	0.77	1.88	1.65	2.56	4.09	1.8	1.8	4.5	4.5	2	2
MS 90S-2/4	1.25	0.95	2820	1400	72	68	0.86	0.82	2.91	2.46	4.23	6.48	2	2	5	5	2	2
MS 90L-2/4	1.7	1.32	2830	1400	73	70	0.86	0.83	3.91	3.28	5.74	9.00	2	2	5	5	2	2
MS 100L1-2/4	2.4	1.84	2830	1410	73	76	0.86	0.83	5.52	4.21	8.10	12.46	2	2	5.5	5	2	2
MS 100L2-2/4	3.3	2.6	2840	1420	74	78	0.86	0.85	7.48	5.66	11.10	17.19	2	1.9	5.5	5	2	1.9
MS 112M-2/4	4.5	4	2860	1430	77	79	0.85	0.86	9.92	8.50	15.03	26.71	2	1.8	5.5	5	2.2	2
MS 132S-2/4	6	5	2860	1440	79	82	0.84	0.86	13.05	10.23	20.03	33.16	2	1.5	5.5	5.5	2.2	1.9
MS 132-2/4	8	6.6	2870	1440	82	84	0.84	0.86	16.76	13.09	26.62	43.77	2	2	6	6	2.2	2.2
MS 160M-2/4	11	9	2920	1450	84	84	0.85	0.82	22.23	18.86	35.98	59.28	1.8	1.8	7	6	2	2
MS 160M-2/4	15	12	2920	1450	86	84	0.87	0.83	28.94	24.84	49.06	79.03	2	2	7	7	2.2	2.2

### TECHNICAL DATA (AT 400V/50Hz)

Model	Power (KW)		Speed (r/min)		Eff. (%)		Power Factor (CosΦ)		Current (A)		Rated Torque (N.M)		T <sub>st</sub> /T <sub>n</sub> (Times)		I <sub>st</sub> /I <sub>n</sub> (Times)		T <sub>max</sub> /T <sub>n</sub> (Times)	
	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P
MS 801-4/8	0.25	0.15	1380	680	58	40	0.77	0.60	0.81	0.90	1.73	2.11	2	2	4.5	3	2	2
MS 802-4/8	0.45	0.25	1390	685	68	48	0.80	0.60	1.19	1.25	3.09	3.49	1.8	2	4.5	3	2	2
MS 90S-4/8	0.55	0.3	1400	690	68	50	0.83	0.61	1.41	1.42	3.75	4.15	1.8	2	4.5	3.5	2	2
MS 90L-4/8	0.8	0.45	1400	690	68	53	0.83	0.63	2.05	1.95	5.46	6.23	1.8	1.6	4	3	1.9	1.8
MS 100L1-4/8	1.25	0.6	1400	700	69	54	0.82	0.56	3.19	2.86	8.53	8.16	1.8	2	5	3.5	2	2
MS 100L2-4/8	1.76	0.88	1400	700	71	58	0.84	0.56	4.26	3.91	12.00	12.00	1.8	2	5.5	4	2	2
MS 112M-4/8	2.2	1.5	1420	700	75	64	0.82	0.61	5.16	5.54	14.80	20.46	2	2	6	4	2	2
MS 132S-4/8	3.3	2.2	1430	705	78	70	0.84	0.64	7.27	7.09	22.04	29.8	2	2	6	5	2	2
MS 132M-4/8	4.5	3	1430	705	82	77	0.85	0.65	9.32	8.65	30.05	40.64	2	2	6	5	2	2
MS 160M1-4/8	5.5	4	1440	710	82	77	0.81	0.69	11.95	10.87	36.48	53.80	2.1	1.7	7.6	4.6	2.3	2.2
MS 160M2-4/8	7.5	5	1440	710	82	79	0.89	0.78	14.83	11.71	49.74	67.25	1.7	1.6	6.6	4.5	2.3	2.1
MS 160L-4/8	10	7	1450	715	84	82	0.90	0.78	19.09	15.80	65.86	93.50	1.8	1.9	5.5	5	2.3	2.1

Model	Power (KW)		Speed (r/min)		Eff. (%)		Power Factor (CosΦ)		Current (A)		Rated Torque (N.M)		T <sub>st</sub> /T <sub>n</sub> (Times)		I <sub>st</sub> /I <sub>n</sub> (Times)		T <sub>max</sub> /T <sub>n</sub> (Times)	
	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P
MS801-4/ 6	0.3	0.22	1400	910	60	55	0.74	0.69	0.98	0.84	2.05	2.31	2	1.8	4.5	4	2	2
MS802-4/ 6	0.45	0.3	1410	920	63	58	0.75	0.7	1.37	1.07	3.05	3.11	2	1.8	4.5	4	2	2
MS90S-4/6	0.66	0.45	1410	920	66	61	0.76	0.65	1.9	1.64	4.47	4.67	1.7	1.7	5	4.5	2	2
MS90L-4/ 6	0.88	0.6	1420	930	70	64	0.77	0.67	2.36	2.02	5.92	6.16	1.7	1.7	5	4.5	2	2
MS100L1-4/6	1.32	0.88	1420	940	72	67	0.85	0.75	3.11	2.3	8.88	8.94	1.8	1.8	6	5	2	2
MS100L2-4/6	1.76	1.2	1430	950	74	70	0.85	0.75	4.04	3.3	11.75	12.06	1.8	1.8	6	5	2	2
MS112M-4/6	2.2	1.5	1430	950	76	70	0.8	0.70	5.22	4.42	14.69	15	2	1.8	6	5	2.2	2.2
MS132S-4/6	3.3	2.2	1440	960	82	78	0.81	0.72	7.17	5.65	21.9	21.9	2	2	7	6	2.2	2.2
MS132M-4/6	4.5	3	1450	970	83	80	0.82	0.74	9.54	7.31	29.6	29.5	2	2	7	6	2.3	2.3
MS160M-4/6	6.6	4.5	1460	970	84	81	0.84	0.78	13.5	10.3	43.2	44.3	1.8	1.8	7	6	2.3	2.3
MS160L-4/ 6	8.8	6	1460	970	84	81	0.85	0.79	17.8	13.5	57.6	59.1	1.8	1.8	7	6	2.3	2.3

Model	Power (KW)		Speed (r/min)		Eff. (%)		Power Factor (CosΦ)		Current (A)		Rated Torque (N.M)		T <sub>st</sub> /T <sub>n</sub> (Times)		I <sub>st</sub> /I <sub>n</sub> (Times)		T <sub>max</sub> /T <sub>n</sub> (Times)	
	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P
MS 801-6/ 8	0.18	0.11	900	680	50	42	0.69	0.65	0.75	0.58	1.91	1.54	1.5	1.5	3.5	3	1.5	1.5
MS 802-6/8	0.25	0.18	920	700	54	46	0.7	0.66	0.95	0.86	2.60	2.46	1.7	1.5	3.5	3	1.5	1.7
MS 90S-6/8	0.37	0.25	930	680	58	50	0.72	0.68	1.28	1.06	3.80	3.51	1.5	1.4	4	3	1.8	1.7
MS 90L-6/ 8	0.55	0.37	940	685	63	54	0.73	0.69	1.73	1.43	5.59	5.16	1.5	1.4	4	3	1.8	1.7
MS 100L1-6/8	0.75	0.55	950	700	69	63	0.74	0.74	2.12	1.70	7.54	7.50	1.5	1.4	5	4	2	1.8
MS 100L2-6/8	1.03	0.75	955	705	71	65	0.76	0.76	2.76	2.19	10.30	10.16	1.5	1.4	5	4	2	1.8
MS 112M-6/8	1.25	0.95	960	710	72	64	0.71	0.71	3.53	3.02	12.43	12.78	1.5	1.5	5	4	2	1.8
MS 132S-6/ 8	2.2	1.5	970	720	76	70	0.71	0.7	5.88	4.42	21.66	19.90	1.6	1.4	6	5.5	2.3	2
MS 132M-6/8	3	1.85	970	720	78	74	0.71	0.7	7.82	5.01	29.54	24.37	1.6	1.4	6	5.5	2.3	2
MS160M1-6/8/8	3.7	2.6	970	720	78	75	0.74	0.71	9.25	7.05	36.43	34.49	1.8	1.5	6	5.5	2.5	1.9
MS160M2-6/8/8	4.5	3.3	970	720	79	76	0.78	0.72	10.54	8.70	44.30	43.77	1.8	1.7	6	5.5	2.5	2
MS160L-6/8/6	6	4.5	973	720	80	77	0.79	0.73	13.70	11.55	59.89	59.69	1.8	1.7	6	5.5	2.5	2

Model	Power (KW)		Speed (r/min)		Eff. (%)		Power Factor (CosΦ)		Current (A)		Rated Torque (N.M)		T <sub>st</sub> /T <sub>n</sub> (Times)		I <sub>st</sub> /I <sub>n</sub> (Times)		T <sub>max</sub> /T <sub>n</sub> (Times)	
	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P
MS801-2/8	0.37	0.08	2760	660	65	33	0.76	0.48	1.08	0.73	1.28	1.16	1.7	2	3.5	2.5	1.9	2.1
MS802-2/8	0.55	0.11	2780	670	67	35	0.78	0.50	1.52	0.91	1.89	1.57	1.7	2	4	3	1.9	2.2
MS90S-2/8	0.75	0.18	2800	670	67	43	0.79	0.52	2.05	1.16	2.56	2.57	1.8	2	4	3	2	2.3
MS90L-2/8	1.1	0.3	2810	680	67	45	0.8	0.54	2.96	1.78	3.74	4.21	1.8	2	4	3.5	2	2.3
MS 100L1-2/	1.5	0.37	2820	700	67	50	0.84	0.56	3.85	1.91	5.08	5.05	1.7	2.1	5	3.5	2	2.6
MS 100L2-2/8	2.2	0.55	2820	710	68	51	0.85	0.58	5.49	2.68	7.45	7.40	1.8	2.2	5	3.5	2	2.6
MS 112M1-2/ 8	2.6	0.75	2840	710	71	58	0.86	0.6	6.15	3.11	8.74	10.09	1.8	1.8	5.5	4	1.9	1.9
MS 112M2-2/8	3	0.9	2850	710	75	63	0.86	0.58	6.71	3.56	10.05	12.1	1.7	2	6.5	4.5	1.9	2.2
MS 132S-2/ 8	3.7	1.1	2890	710	81	65	0.83	0.57	7.94	4.29	12.22	14.80	1.7	1.7	7	5	1.9	1.9
MS 132M-2/8	5.5	1.5	2900	720	82	66	0.85	0.57	11.39	5.75	18.11	19.90	1.8	1.8	7	5	1.9	1.9
MS 160M-2/ 8	7.5	2.2	2900	720	80	73	0.87	0.58	15.55	7.50	24.70	29.18	2.3	2.5	7	5	2.3	2.5
MS 160L-2/8	9.5	3	2920	720	82	73	0.87	0.58	19.22	10.23	31.07	39.79	2.3	2.5	7	5	2.3	2.5