

Screw Compressor Standard Inspection Procedures

Document No. : SCSD-007-08

Screw Rotor Dynamic Balance Test

Moriya Plant, Mayekawa Mfg. Co., Ltd.

Revision	Date	Created by	Confirmed by	Approved by	Description
08	2021/12/09	Saka	Kato	Koizumi	Revised the reference value
07	2020/06/29	Sakaguchi	kato	Koizumi	400XXL added
06	2017/07/12	Iisaka	Sasaki	Kawasaki	Changed of equipment manufacturer company name
05	2016/06/10	Iisaka	Sasaki	Kawasaki	W series added
04	2014/04/01	Suzukawa	Sasaki	Sakaguchi	Review and revised
03	2013/05/01	Suzukawa	Sasaki	Shozu	Review and revised
02	2012/05/01	Suzukawa	Sasaki	Shozu	J series added
01	2011/07/01	Sasaki	Ikehara	Shozu	Review and revised
00	06/06/05	Ikehara	Amada	Koizumi	Newly created

Screw Rotor Dynamic Balance Test

1. Scope

Rotor dynamic balance test is carried out to check whether the compressor's rotor dynamic balance is within the standard value of the standard "Rotating machines - Balance quality requirement of rigid rotors" (JIS B 0905-1992).

2. Dynamic Balance Test

2.1 Method of Dynamic Balance Test

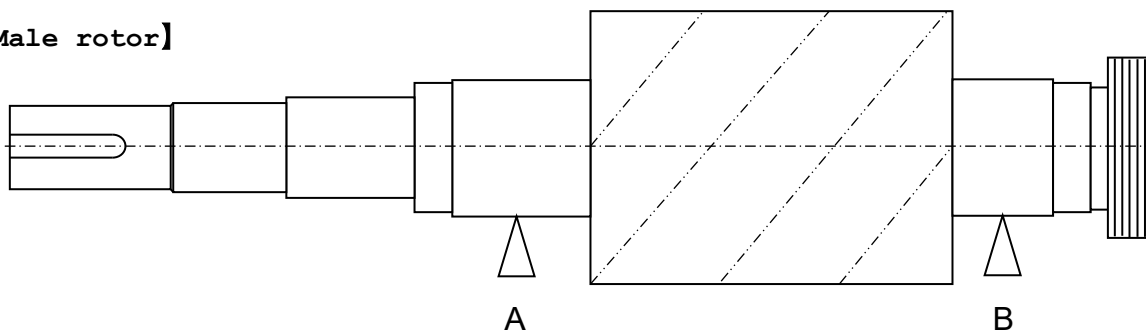
Rotor dynamic balance is measured at two points on each rotor using a screw rotor balancing machine.

Measuring points (see the figures below)

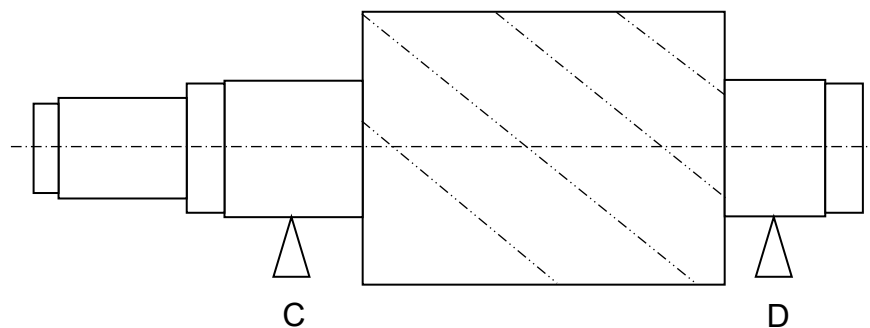
Male rotor At points A and B

Female rotor At points C and D

[Male rotor]



[Female rotor]



2.2 Measuring equipment

Manufacturer	Measuring equipment	Model
NAGAHAMA SEISAKUSHO LTD.,	Dynamic balancing machine	H40U H20NB

3. Acceptance Criteria

The acceptance criteria is as per JIS B 0905 Class G2.5 or Class 1.0 and the measured values must not exceed these criteria. Refer to the following tables as the standard values differ from rotor materials.

Rotor Material	<input type="checkbox"/> FCD600	<input type="checkbox"/> SFCM930S	<input type="checkbox"/> SFCM740S
Balance class	<input type="checkbox"/> Class G2.5	<input type="checkbox"/> Class G1.0	

3.1.1 JIS G 5502 : FCD600 (Ductile Iron) JIS B 0905 Class G2.5 < Single stage compressor >

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
125S	0.7	3.7	4500	0.8	4.2	3000	1265
125L	0.9	4.8	4500	1.0	5.6	3000	1265
160S	1.0	7.6	4500	1.2	8.8	3000	1265
160M	1.2	8.8	4500	1.4	10.3	3000	1265
160L	1.4	10.0	4500	1.6	11.7	3000	1265
200S	1.6	14.2	4500	1.8	16.6	3000	1265
200M	1.8	16.6	4500	2.2	19.4	3000	1265
200L	2.1	18.8	4500	2.5	22.2	3000	1265
250S	2.4	26.8	4500	2.9	31.7	3000	750
250M	2.9	31.4	4500	3.4	37.4	3000	750
250L	3.3	35.8	4500	3.9	42.7	3000	750
250LL	4.7	51.8	3600	5.7	62.8	2400	750
320S	4.9	68.1	3600	5.8	80.6	2400	430
320M	5.7	79.3	3600	6.7	94.3	2400	430
320L	6.5	90.4	3600	7.7	107.8	2400	430
320LL	7.5	104.3	3600	9.0	126.3	2400	430
400S	8.3	145.6	3600	9.9	173.2	2400	430
400M	9.7	169.2	3600	11.5	201.9	2400	430
400L	10.9	191.4	3600	13.1	228.9	2400	430
400LL	12.4	216.4	3600	14.8	259.4	2400	430
400XL	13.6	237.3	3600	16.3	284.9	2400	430
400XXL	14.9	261.1	3600	17.9	313.9	2400	430
160WS	1.1	7.7	4500	1.2	9.0	3000	1265
160WM	1.2	8.9	4500	1.4	10.4	3000	1265
160WL	1.4	10.1	4500	1.6	11.8	3000	1265
200WS	1.6	14.5	4500	1.9	16.8	3000	1265
200WM	1.9	16.8	4500	2.2	19.6	3000	1265
200WL	2.1	19.1	4500	2.5	22.4	3000	1265
250WS	2.5	27.5	4500	3.0	33.3	3000	750
250WM	2.9	32.1	4500	3.5	38.9	3000	750
250WL	3.3	36.5	4500	4.0	44.2	3000	750
320WS	5.0	69.7	3600	6.0	84.2	2400	430
320WM	5.8	80.9	3600	7.0	97.8	2400	430
320WL	6.6	92.0	3600	7.9	111.3	2400	430

Continued on the following page

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
170JS	1.3	9.8	4500	1.0	6.0	3750	1265
170JM	1.6	11.4	4500	1.1	7.0	3750	1265
170JL	1.9	13.5	4500	1.4	8.6	3750	1265
220JS	2.5	23.3	4500	1.8	14.6	3750	1265
220JM	2.9	27.6	4500	2.1	17.5	3750	1265
220JL	3.5	32.9	4500	2.6	21.3	3750	1265
280JS	5.2	64.3	3600	3.8	40.2	3000	750
280JM	6.1	75.6	3600	4.5	48.1	3000	750
280JL	7.3	90.2	3600	5.6	58.9	3000	750
i125S	0.6	3.5	4500	0.7	3.7	3000	1265
i125L	1.1	5.8	3550	1.2	6.5	2367	1265
i160S	0.9	6.8	4500	1.1	8.0	3000	1265
i160M	1.4	10.2	3550	1.6	12.0	2367	1265
i160L	1.6	11.8	3550	1.9	13.8	2367	1265

3.1.2 JIS G 5502 : FCD600 (Ductile Iron) JIS B 0905 Class G1.0 < Single stage compressor >

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
160S	0.4	3.0	4500	0.5	3.5	3000	1265
160M	0.5	3.5	4500	0.6	4.1	3000	1265
160L	0.5	4.0	4500	0.6	4.7	3000	1265
200S	0.6	5.7	4500	0.7	6.6	3000	1265
200M	0.7	6.6	4500	0.9	7.8	3000	1265
200L	0.8	7.5	4500	1.0	8.9	3000	1265
250S	1.0	10.7	4500	1.2	12.7	3000	750
250M	1.1	12.6	4500	1.4	14.9	3000	750
250L	1.3	14.3	4500	1.6	17.1	3000	750
250LL	1.9	20.7	3600	2.3	25.1	2400	750
320S	1.9	27.2	3600	2.3	32.3	2400	430
320M	2.3	31.7	3600	2.7	37.7	2400	430
320L	2.6	36.1	3600	3.1	43.1	2400	430
320LL	3.0	41.7	3600	3.6	50.5	2400	430

Continued on the following page

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
400S	3.3	58.2	3600	4.0	69.3	2400	430
400M	3.9	67.7	3600	4.6	80.8	2400	430
400L	4.4	76.5	3600	5.2	91.6	2400	430
400LL	4.9	86.6	3600	5.9	103.8	2400	430
400XL	5.4	94.9	3600	6.5	114.0	2400	430
400XXL	6.0	104.4	3600	7.2	125.6	2400	430
160WS	0.4	3.1	4500	0.5	3.6	3000	1265
160WM	0.5	3.6	4500	0.6	4.2	3000	1265
160WL	0.6	4.0	4500	0.6	4.7	3000	1265
200WS	0.6	5.8	4500	0.7	6.7	3000	1265
200WM	0.7	6.7	4500	0.9	7.8	3000	1265
200WL	0.8	7.6	4500	1.0	8.9	3000	1265
250WS	1.0	11.0	4500	1.2	13.3	3000	750
250WM	1.2	12.8	4500	1.4	15.6	3000	750
250WL	1.3	14.6	4500	1.6	17.7	3000	750
320WS	2.0	27.9	3600	2.4	33.7	2400	430
320WM	2.3	32.4	3600	2.8	39.1	2400	430
320WL	2.6	36.8	3600	3.2	44.5	2400	430

3.1.3 JIS G 3221 : SFM930S, SFM740S (Forged steel) JIS B 0905 Class G2.5

< Single stage compressor >

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
125S	0.7	4.1	4500	0.8	4.6	3000	1265
125L	1.0	5.3	4500	1.1	6.2	3000	1265
160S	1.1	8.4	4500	1.3	9.7	3000	1265
160M	1.3	9.7	4500	1.6	11.3	3000	1265
160L	1.5	11.0	4500	1.8	12.9	3000	1265
200S	1.7	15.7	4500	2.0	18.3	3000	1265
200M	2.0	18.3	4500	2.4	21.4	3000	1265
200L	2.3	20.8	4500	2.7	24.5	3000	1265
250S	2.7	29.6	4500	3.2	35.0	3000	750
250M	3.2	34.7	4500	3.7	41.2	3000	750
250L	3.6	39.5	4500	4.3	47.1	3000	750
250LL	5.2	57.1	3600	6.3	69.3	2400	750

Continued on the following page

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
320S	5.4	75.1	3600	6.4	88.9	2400	430
320M	6.2	87.5	3600	7.4	104.0	2400	430
320L	7.1	99.7	3600	8.5	118.8	2400	430
320LL	8.2	115.1	3600	10.0	139.3	2400	430
400S	9.2	160.6	3600	10.9	191.0	2400	430
400M	10.7	186.6	3600	12.7	222.7	2400	430
400L	12.1	211.0	3600	14.4	252.5	2400	430
400LL	13.6	238.6	3600	16.3	286.1	2400	430
400XL	15.0	261.7	3600	18.0	314.2	2400	430
400XXL	16.5	288.0	3600	19.8	346.2	2400	430
160WS	1.2	8.5	4500	1.4	9.9	3000	1265
160WM	1.3	9.8	4500	1.6	11.5	3000	1265
160WL	1.5	11.1	4500	1.8	13.0	3000	1265
200WS	1.8	16.0	4500	2.1	18.5	3000	1265
200WM	2.1	18.5	4500	2.4	21.6	3000	1265
200WL	2.3	21.0	4500	2.7	24.7	3000	1265
250WS	2.8	30.3	4500	3.3	36.7	3000	750
250WM	3.2	35.4	4500	3.9	42.9	3000	750
250WL	3.7	40.2	4500	4.4	48.8	3000	750
320WS	5.5	76.9	3600	6.6	92.8	2400	430
320WM	6.4	89.3	3600	7.7	107.9	2400	430
320WL	7.2	101.5	3600	8.8	122.7	2400	430

3.1.4 JIS G 3221 : SFMC930S, SFMC740S (Forged steel) JIS B 0905 Class G1.0

< Single stage compressor >

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
160S	0.5	3.4	4500	0.5	3.9	3000	1265
160M	0.5	3.9	4500	0.6	4.5	3000	1265
160L	0.6	4.4	4500	0.7	5.2	3000	1265
200S	0.7	6.3	4500	0.8	7.3	3000	1265
200M	0.8	7.3	4500	1.0	8.6	3000	1265
200L	0.9	8.3	4500	1.1	9.8	3000	1265

Continued on the following page

Model	Male rotor			Female rotor			Test speed
	Standard value		Max. speed	Standard value		Max. speed	
	g	g·cm	min-1	g	g·cm	min-1	min-1
250S	1.1	11.8	4500	1.3	14.0	3000	750
250M	1.3	13.9	4500	1.5	16.5	3000	750
250L	1.4	15.8	4500	1.7	18.8	3000	750
250LL	2.1	22.8	3600	2.5	27.7	2400	750
320S	2.1	30.0	3600	2.5	35.6	2400	430
320M	2.5	35.0	3600	3.0	41.6	2400	430
320L	2.8	39.9	3600	3.4	47.5	2400	430
320LL	3.3	46.0	3600	4.0	55.7	2400	430
400S	3.7	64.2	3600	4.4	76.4	2400	430
400M	4.3	74.6	3600	5.1	89.1	2400	430
400L	4.8	84.4	3600	5.8	101.0	2400	430
400LL	5.5	95.5	3600	6.5	114.4	2400	430
400XL	6.0	104.7	3600	7.2	125.7	2400	430
400XXL	6.6	115.2	3600	7.9	138.5	2400	430
160WS	0.5	3.4	4500	0.5	3.9	3000	1265
160WM	0.5	3.9	4500	0.6	4.6	3000	1265
160WL	0.6	4.5	4500	0.7	5.2	3000	1265
200WS	0.7	6.4	4500	0.8	7.4	3000	1265
200WM	0.8	7.4	4500	1.0	8.6	3000	1265
200WL	0.9	8.4	4500	1.1	9.9	3000	1265
250WS	1.1	12.1	4500	1.3	14.7	3000	750
250WM	1.3	14.2	4500	1.6	17.2	3000	750
250WL	1.5	16.1	4500	1.8	19.5	3000	750
320WS	2.2	30.8	3600	2.7	37.1	2400	430
320WM	2.6	35.7	3600	3.1	43.1	2400	430
320WL	2.9	40.6	3600	3.5	49.1	2400	430

3.2.1 JIS G 5502 : FCD600 (Ductile Iron) JIS B 0905 Class G2.5

< Compound two-stage compressor >

Model			Male rotor			Female rotor			Test speed
			Standard value		Max. speed	Standard		Max. speed	
			g	g·cm	min-1	g	g·cm	min-1	min-1
1610	low stage	S	1.1	7.9	4000	1.2	9.0	2667	1265
	high stage	L	0.7	2.9	4000	0.8	3.6	2667	1265

Continued on the following page

Model			Male rotor			Female rotor			Test speed
			Standard value		Max. speed	Standard value		Max. speed	
			g	g·cm	min-1	g	g·cm	min-1	min-1
1612	low stage *1 : Mounted on speed-up gear	S	1.0	7.1	4500	1.1	8.0	3000	1265
		M	1.1	8.3	4500	1.3	9.4	3000	1265
		L	1.3	9.5	4500	1.5	10.9	3000	1265
		L* ¹	1.3	9.6	4500	1.5	10.9	3000	1265
	high stage	S	0.6	3.2	4500	0.7	4.0	3000	1265
		L	0.8	4.3	4500	1.0	5.4	3000	1265
2016	low stage	S	1.7	15.3	4000	2.0	18.3	2667	1265
		M	2.0	17.9	4000	2.4	21.5	2667	1265
		L	2.3	20.5	4000	2.7	24.6	2667	1265
	high stage	S	1.0	7.6	4000	1.3	9.4	2667	1265
		M	1.2	8.9	4000	1.5	11.0	2667	1265
		L	1.4	10.2	4000	1.7	12.6	2667	1265
2520	low stage	S	3.0	32.8	3600	3.6	39.7	2400	750
		M	3.5	38.5	3600	4.2	46.7	2400	750
		L	4.0	44.0	3600	4.8	53.3	2400	750
	high stage	S	1.9	16.9	3600	2.3	20.7	2400	1265
		M	2.2	19.9	3600	2.7	24.3	2400	1265
		L	2.5	22.7	3600	3.1	27.7	2400	1265
		WS	1.9	17.3	3600	2.3	20.9	2400	1265
3225	low stage	S	4.7	66.3	3600	5.8	80.6	2400	430
		M	5.5	77.5	3600	6.7	94.3	2400	430
		L	6.3	88.6	3600	7.7	107.8	2400	430
		LL	7.2	100.9	3600	8.8	122.8	2400	430
	high stage	S	2.9	31.6	3600	3.5	38.9	2400	750
		M	3.4	37.4	3600	4.2	45.9	2400	750
		L	3.9	42.9	3600	4.8	52.6	2400	750
		WS	3.0	32.5	3600	3.7	40.8	2400	750
		WM	3.5	38.3	3600	4.4	47.9	2400	750
		WL	4.0	43.7	3600	5.0	54.5	2400	750

Continued on the following page

Model			Male rotor			Female rotor			Test speed
			Standard value		Max. speed	Standard		Max. speed	
			g	g·cm	min-1	g	g·cm	min-1	min-1
4032	low stage	S	8.1	142.4	3600	9.9	173.2	2400	430
		M	9.5	166.0	3600	11.5	201.9	2400	430
		L	10.8	188.2	3600	13.1	228.9	2400	430
		LL	12.2	213.2	3600	14.8	259.4	2400	430
		XL	13.4	234.1	3600	16.3	284.9	2400	430
	high stage	S	4.7	65.2	3600	5.8	80.6	2400	430
		M	5.5	76.4	3600	6.7	94.3	2400	430
		L	6.2	87.5	3600	7.7	107.8	2400	430
		LL	7.2	101.5	3600	9.0	126.3	2400	430
		WS	4.8	66.9	3600	6.0	84.2	2400	430
		WM	5.6	78.1	3600	7.0	97.8	2400	430
		WL	6.4	89.1	3600	7.9	111.3	2400	430

3.2.2 JIS G 5502 : FCD600 (Ductile Iron) JIS B 0905 Class G1.0

< Compound two-stage compressor >

Model			Male rotor			Female rotor			Test speed
			Standard value		Max. speed	Standard		Max. speed	
			g	g·cm	min-1	g	g·cm	min-1	min-1
1610	low stage	S	0.4	3.1	4000	0.5	3.6	2667	1265
1612	low stage *1 : Mounted on speed-up gear	S	0.4	2.8	4500	0.4	3.2	3000	1265
		M	0.5	3.3	4500	0.5	3.8	3000	1265
		L	0.5	3.8	4500	0.6	4.3	3000	1265
		L* ¹	0.5	3.9	4500	0.6	4.3	3000	1265
2016	low stage	S	0.7	6.1	4000	0.8	7.3	2667	1265
		M	0.8	7.2	4000	1.0	8.6	2667	1265
		L	0.9	8.2	4000	1.1	9.9	2667	1265
	high stage	S	0.4	3.0	4000	0.5	3.8	2667	1265
		M	0.5	3.6	4000	0.6	4.4	2667	1265
		L	0.6	4.1	4000	0.7	5.1	2667	1265

Continued on the following page

Model		Male rotor			Female rotor			Test	
		Standard value		Max. speed	Standard		Max. speed	speed	
		g	g·cm	min-1	g	g·cm	min-1	min-1	
2520	low stage	S	1.2	13.1	3600	1.4	15.9	2400	750
		M	1.4	15.4	3600	1.7	18.7	2400	750
		L	1.6	17.6	3600	1.9	21.3	2400	750
	high stage	S	0.8	6.8	3600	0.9	8.3	2400	1265
		M	0.9	7.9	3600	1.1	9.7	2400	1265
		L	1.0	9.1	3600	1.2	11.1	2400	1265
		WS	0.8	6.9	3600	0.9	8.4	2400	1265
3225	low stage	S	1.9	26.5	3600	2.3	32.3	2400	430
		M	2.2	31.0	3600	2.7	37.7	2400	430
		L	2.5	35.4	3600	3.1	43.1	2400	430
		LL	2.9	40.4	3600	3.5	49.1	2400	430
	high stage	S	1.2	12.7	3600	1.4	15.6	2400	750
		M	1.4	15.0	3600	1.7	18.4	2400	750
		L	1.6	17.1	3600	1.9	21.0	2400	750
		WS	1.2	13.0	3600	1.5	16.3	2400	750
		WM	1.4	15.3	3600	1.7	19.2	2400	750
		WL	1.6	17.5	3600	2.0	21.8	2400	750
4032	low stage	S	3.3	57.0	3600	4.0	69.3	2400	430
		M	3.8	66.4	3600	4.6	80.8	2400	430
		L	4.3	75.3	3600	5.2	91.6	2400	430
		LL	4.9	85.3	3600	5.9	103.8	2400	430
		XL	5.4	93.7	3600	6.5	114.0	2400	430
	high stage	S	1.9	26.1	3600	2.3	32.3	2400	430
		M	2.2	30.6	3600	2.7	37.7	2400	430
		L	2.5	35.0	3600	3.1	43.1	2400	430
		LL	2.9	40.6	3600	3.6	50.5	2400	430
		WS	1.9	26.7	3600	2.4	33.7	2400	430
		WM	2.2	31.2	3600	2.8	39.1	2400	430
		WL	2.5	35.6	3600	3.2	44.5	2400	430

3.2.3 JIS G 3221 : SFCM930S, SFCM740S (Forged steel) JIS B 0905 Class G2.5

< Compound two-stage compressor >

Model			Male rotor			Female rotor			Test	
			Standard value		Max. speed	Standard		Max. speed	speed	
			g	g·cm	min-1	g	g·cm	min-1	min-1	
1610	low stage	S	1.2	8.7	4000	1.4	9.9	2667	1265	
	high stage	L	0.7	3.2	4000	0.9	3.9	2667	1265	
1612	low stage	S	1.1	7.8	4500	1.2	8.8	3000	1265	
		*1 : Mounted on speed-up gear	M	1.3	9.2	4500	1.4	10.4	3000	1265
		L	1.4	10.5	4500	1.6	12.0	3000	1265	
	high stage	L*1	1.5	10.6	4500	1.6	12.0	3000	1265	
		S	0.6	3.6	4500	0.8	4.4	3000	1265	
		L	0.9	4.8	4500	1.1	5.9	3000	1265	
2016	low stage	S	1.9	16.9	4000	2.2	20.2	2667	1265	
		M	2.2	19.8	4000	2.6	23.8	2667	1265	
		L	2.5	22.6	4000	3.0	27.2	2667	1265	
	high stage	S	1.1	8.4	4000	1.4	10.4	2667	1265	
		M	1.3	9.8	4000	1.7	12.2	2667	1265	
		L	1.5	11.3	4000	1.9	13.9	2667	1265	
2520	low stage	S	3.3	36.1	3600	4.0	43.7	2400	750	
		M	3.9	42.5	3600	4.7	51.5	2400	750	
		L	4.4	48.5	3600	5.3	58.8	2400	750	
	high stage	S	2.1	18.7	3600	2.5	22.9	2400	1265	
		M	2.4	21.9	3600	3.0	26.8	2400	1265	
		L	2.8	25.0	3600	3.4	30.6	2400	1265	
WS	2.1	19.1	3600	2.6	23.1	2400	1265			
3225	low stage	S	5.2	73.2	3600	6.4	88.9	2400	430	
		M	6.1	85.5	3600	7.4	104.0	2400	430	
		L	7.0	97.7	3600	8.5	118.8	2400	430	
		LL	8.0	111.3	3600	9.7	135.4	2400	430	
	high stage	S	3.2	34.9	3600	3.9	42.9	2400	750	
		M	3.8	41.3	3600	4.6	50.7	2400	750	
		L	4.3	47.3	3600	5.3	58.0	2400	750	
		WS	3.3	35.8	3600	4.1	45.0	2400	750	
		WM	3.8	42.2	3600	4.8	52.8	2400	750	
		WL	4.4	48.2	3600	5.5	60.1	2400	750	

Continued on the following page

Model			Male rotor			Female rotor			Test
			Standard value		Max. speed	Standard		Max. speed	speed
			g	g·cm	min-1	g	g·cm	min-1	min-1
4032	low stage	S	9.0	157.1	3600	10.9	191.0	2400	430
		M	10.5	183.1	3600	12.7	222.7	2400	430
		L	11.9	207.5	3600	14.4	252.5	2400	430
		LL	13.4	235.1	3600	16.3	286.1	2400	430
		XL	14.8	258.2	3600	18.0	314.2	2400	430
	high stage	S	5.1	71.9	3600	6.4	88.9	2400	430
		M	6.0	84.3	3600	7.4	104.0	2400	430
		L	6.9	96.5	3600	8.5	118.8	2400	430
		LL	8.0	111.9	3600	10.0	139.3	2400	430
		WS	5.3	73.7	3600	6.6	92.8	2400	430
		WM	6.1	86.1	3600	7.7	107.9	2400	430
		WL	7.0	98.3	3600	8.8	122.7	2400	430

3.2.4 JIS G 3221 : SFCM930S, SFCM740S (Forged steel) JIS B 0905 Class G1.0

< Compound two-stage compressor >

Model			Male rotor			Female rotor			Test
			Standard value		Max. speed	Standard		Max. speed	speed
			g	g·cm	min-1	g	g·cm	min-1	min-1
1610	low stage	S	0.5	3.5	4000	0.5	4.0	2667	1265
1612	low stage *1 : Mounted on speed-up gear	S	0.4	3.1	4500	0.5	3.5	3000	1265
		M	0.5	3.7	4500	0.6	4.2	3000	1265
		L	0.6	4.2	4500	0.7	4.8	3000	1265
		L*1	0.6	4.3	4500	0.7	4.8	3000	1265
2016	low stage	S	0.7	6.7	4000	0.9	8.1	2667	1265
		M	0.9	7.9	4000	1.1	9.5	2667	1265
		L	1.0	9.0	4000	1.2	10.9	2667	1265
	high stage	S	0.5	3.3	4000	0.6	4.2	2667	1265
		M	0.5	3.9	4000	0.7	4.9	2667	1265
		L	0.6	4.5	4000	0.8	5.6	2667	1265
2520	low stage	S	1.3	14.5	3600	1.6	17.5	2400	750
		M	1.5	17.0	3600	1.9	20.6	2400	750
		L	1.8	19.4	3600	2.1	23.5	2400	750
	high stage	S	0.8	7.5	3600	1.0	9.1	2400	1265
		M	1.0	8.8	3600	1.2	10.7	2400	1265
		L	1.1	10.0	3600	1.4	12.2	2400	1265
		WS	0.8	7.6	3600	1.0	9.2	2400	1265

Continued on the following page

Model		Male rotor			Female rotor			Test		
		Standard value		Max. speed	Standard		Max. speed	speed		
		g	g·cm	min-1	g	g·cm	min-1	min-1		
3225	low stage	S	2.1	29.3	3600	2.5	35.6	2400	430	
		M	2.4	34.2	3600	3.0	41.6	2400	430	
		L	2.8	39.1	3600	3.4	47.5	2400	430	
		LL	3.2	44.5	3600	3.9	54.2	2400	430	
	high stage	S	1.3	14.0	3600	1.6	17.2	2400	750	
		M	1.5	16.5	3600	1.8	20.3	2400	750	
		L	1.7	18.9	3600	2.1	23.2	2400	750	
		WS	1.3	14.3	3600	1.6	18.0	2400	750	
		WM	1.5	16.9	3600	1.9	21.1	2400	750	
		WL	1.8	19.3	3600	2.2	24.0	2400	750	
	4032	low stage	S	3.6	62.8	3600	4.4	76.4	2400	430
			M	4.2	73.2	3600	5.1	89.1	2400	430
L			4.7	83.0	3600	5.8	101.0	2400	430	
LL			5.4	94.1	3600	6.5	114.4	2400	430	
XL			5.9	103.3	3600	7.2	125.7	2400	430	
high stage		S	2.1	28.8	3600	2.5	35.6	2400	430	
		M	2.4	33.7	3600	3.0	41.6	2400	430	
		L	2.8	38.6	3600	3.4	47.5	2400	430	
		LL	3.2	44.8	3600	4.0	55.7	2400	430	
		WS	2.1	29.5	3600	2.7	37.1	2400	430	
		WM	2.5	34.4	3600	3.1	43.1	2400	430	
		WL	2.8	39.3	3600	3.5	49.1	2400	430	

4. Records

The test results and judgment are recorded on Appendix-1: MALE/FEMALE ROTOR BALANCING TEST REPORT.



Item No. -

Report No. 0
Serial No. 0

Rotor Balancing Test Report

Model No.	Material	Test Speed	Correction Radius
0	0	0	0

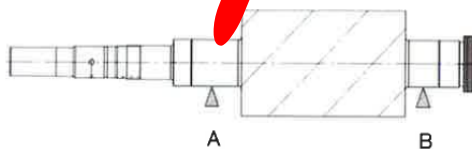
Allowable Residual Unbalance value = $\frac{0 \times 9550}{3600} \times \frac{M}{2} \times \frac{1}{10}$ Class : G 0 (JIS B 9905)

Male Rotor Weight (M) : 0 Rotating Vibration : NAG (A) CR : CK
Female Rotor Weight (m) : 0 Model : H40U

Sample

MALE ROTOR

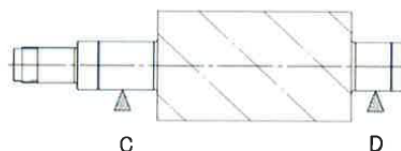
Rotor No.	Date
0	January 0, 1900



	Unbalanced Value at the Left Side (A)			Unbalanced Value at the Right Side (B)		
	(g)	Angle(°)	Value(g.cm)	(g)	Angle(°)	Value(g.cm)
Allowable Residual Unbalance	---	---	0	---	---	0
Before Adjustment	0.000	0	0.0	0.000	0	0.0
After Adjustment	---	---	---	---	---	---

FEMALE ROTOR

Rotor No.	Date
0	January 0, 1900



	Unbalanced Value at the Left Side (C)			Unbalanced Value at the Right Side (D)		
	(g)	Angle(°)	Value(g.cm)	(g)	Angle(°)	Value(g.cm)
Allowable Residual Unbalance	---	---	0	---	---	0
Before Adjustment	0.000	0	0.0	0.000	0	0.0
After Adjustment	---	---	---	---	---	---

Criteria Judgment : Accepted

SURVEYOR

Checked by : _____

Approved by : _____