

### Introduction

The M-RMD40 is an all metal sealed, linear-rotary feedthrough with independent rotation of the inner shaft. It's main purpose is to transport samples between UHV chambers. The independent rotary motion can be used to operate a sample locking mechanism or to rotate the sample carrier platform. The square shaft makes this feedthrough especially sturdy. A set of rare earth magnets on the air and vacuum side provides the necessary force to ensure a rigid coupling from the handle to the shaft. All ball bearings are Dicronite (W-disulfide) dry lube coated. On request, the M-RMD can be built with SiC ceramic hybrid ball bearings.

Pincer grips fitted to the M-RMD40 are oriented vertically. For horizontal orientation of the pincer, see M-RMD40(H).

### Specifications:

#### Materials

All UHV compatible

#### Vacuum Range

CF flanged atm to  $1 \times 10^{-11}$  mbar

#### Temperature Range\*

CF flanged -196 to 150°C

#### Load

Linear force 70N typical

Torque 5Nm typical

#### Retracted Shaft Length

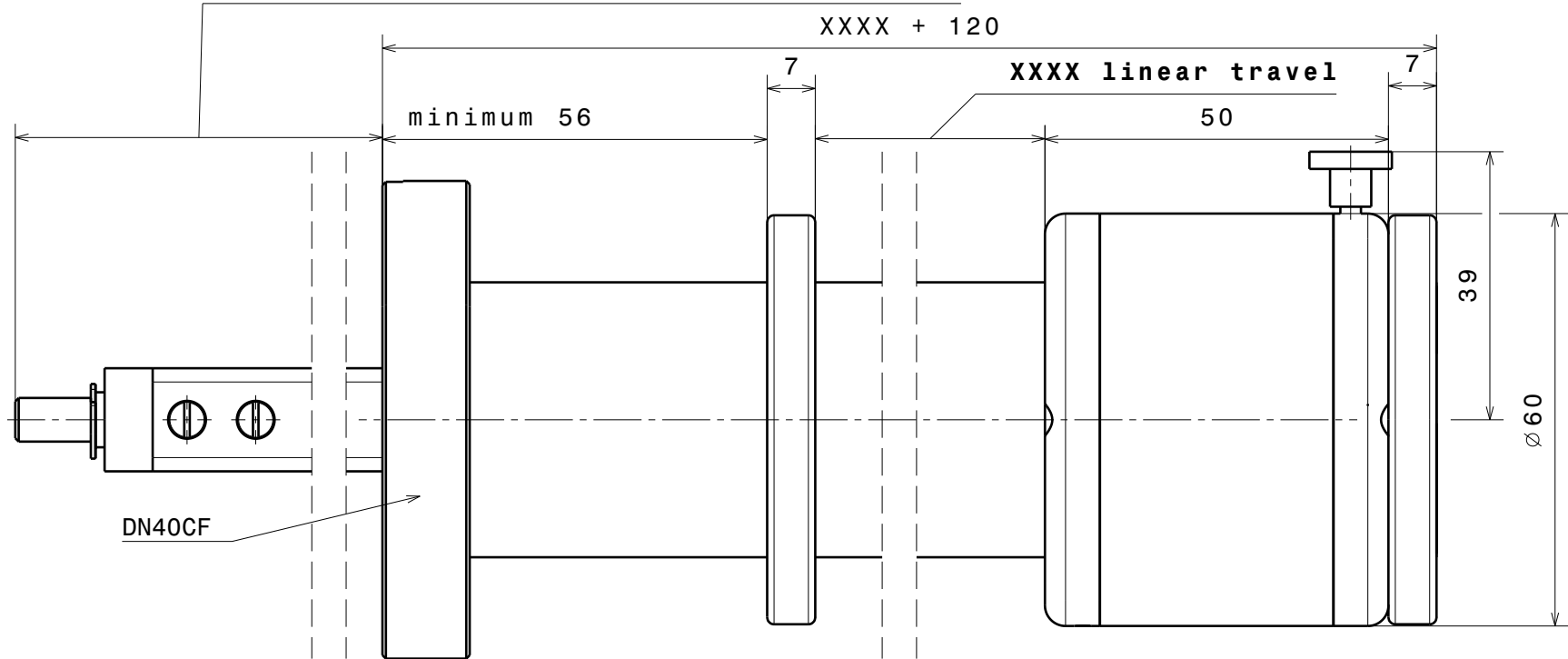
Dual shaft 50mm



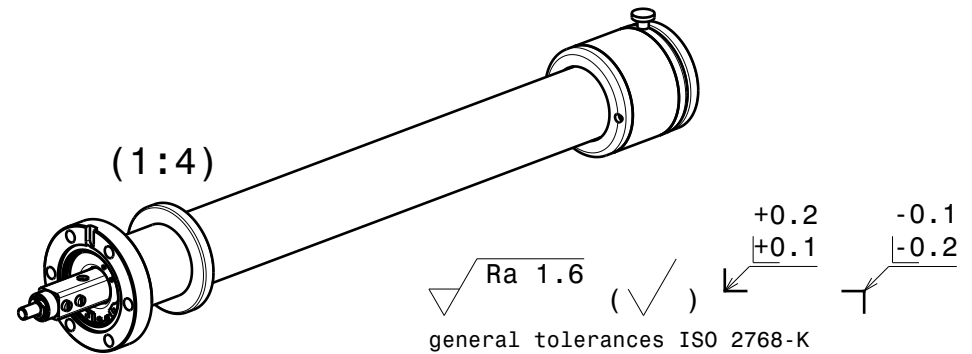
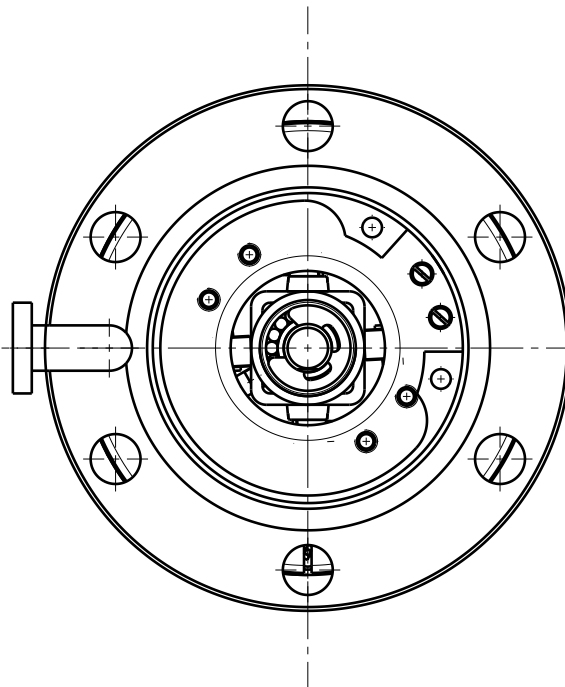
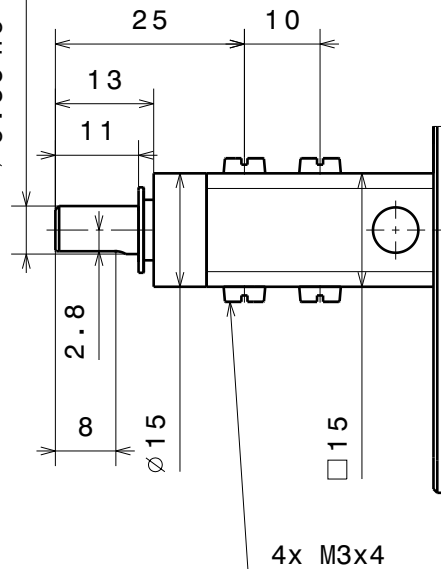
Description	Part Code
Dual shaft single rotary magnetic transporter 300mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40-300-50
Dual shaft single rotary magnetic transporter 500mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40-500-50
Dual shaft single rotary magnetic transporter 750mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40-750-50
Dual shaft single rotary magnetic transporter 1000mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40-1000-50
Dual shaft single rotary magnetic transporter Xmm linear Ymm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40-X-Y
Dual shaft single rotary magnetic transporter horizontal 300mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40(H)-300-50
Dual shaft single rotary magnetic transporter horizontal 500mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40(H)-500-50
Dual shaft single rotary magnetic transporter horizontal 750mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40(H)-750-50
Dual shaft single rotary magnetic transporter horizontal 1000mm linear 50mm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40(H)-1000-50
Dual shaft single rotary magnetic transporter horizontal Xmm linear Ymm retracted DN40CF (with dicronite coated ball bearings)	M-RMD40(H)-X-Y

YYYY retracted (minimum 45, standard 50)

XXXX + 120



$\varnothing 6.35 \text{ h6 } \left( \begin{smallmatrix} 0 \\ -0.009 \end{smallmatrix} \right)$



Material: all UHV compatible		nominal	min.	1	6	30	100	300	1000
Dual Shaft Sample Transporter		dimension	max.	6	30	100	300	1000	2000
		tolerance	±	0.05	0.1	0.3	0.5	0.8	1.2
RMD40		Scale	Drawn	Denys Sutter					
			Date	17.06.2010					
			Revised	02.09.14 CW					
<b>Ferrovac GmbH</b>		1:1		<b>RMD40</b>					
CH-8050 Zurich		Rev. C		sheet 1/1					

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$$XXXX + 120$$

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minimum 56
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2
$$\begin{pmatrix} 6.35 \text{ h6} \\ 0.009 \end{pmatrix}$$

Ø15

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(1:2)

(1:4)

Ra 1.6

(✓)

+0.2  
|+0.1

-0.1  
|-0.2

general tolerances ISO 2768-K

Material: all UHV compatible		nominal	min.	1	6	30	100	300	1000
Dual Shaft Sample Transporter (horizontal)		dimension	max.	6	30	100	300	1000	2000
		tolerance	±	0.05	0.1	0.3	0.5	0.8	1.2
RMD40 (H)		Scale	Drawn		Denys Sutter				
<b>Ferrovac GmbH</b> CH-8050 Zurich		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FERROVAC GMBH. ANY REPRODUCTION IN PART OR AS WHOLE WITHOUT OUR PERMISSION IS PROHIBITED.	1:1	Date	17.06.2010				
			(1:4)	Revised	02.09.14 CW				
			(1:2)						
		Rev. C			<b>RMD40 (H)</b> sheet 1/1				