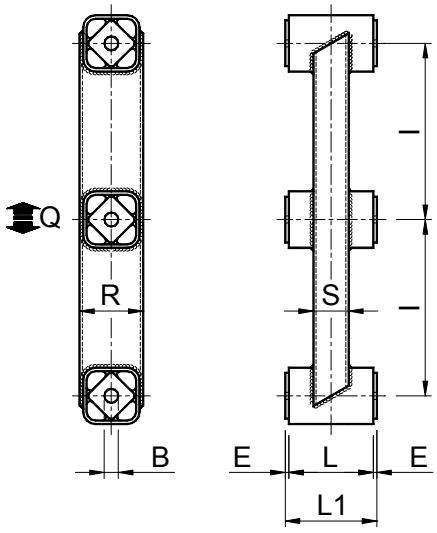
VIB 弹性组件 型号: TD-F / *Elastic Components VIB Type: TD-F*



型号 *Type*	编号 N°	Q			n	Dm	Ed	B	E	I	L	L1	R	S	重量 *Weight* in kg
		J=2	J=3	J=4											
TD-F 30	**RE020724**	140	116	92	605	17	21.7	12.5 $^{+0.20}_{+0.00}$	2.5	100	50	55	40	20	0.88
TD-F 40	**RE020726**	280	232	184	555	21	29.9	16 $^{+0.25}_{+0.00}$	2.5	120	60	65	60	40	1.95
TD-F 50	**RE020728**	560	470	368	485	28	43.0	20 $^{+0.25}_{+0.00}$	5	160	80	90	70	50	4.02
TD-F 60	**RE020730**	1120	940	736	430	35	47.7	24 $^{+0.25}_{+0.00}$	5	200	100	110	80	40	6.52

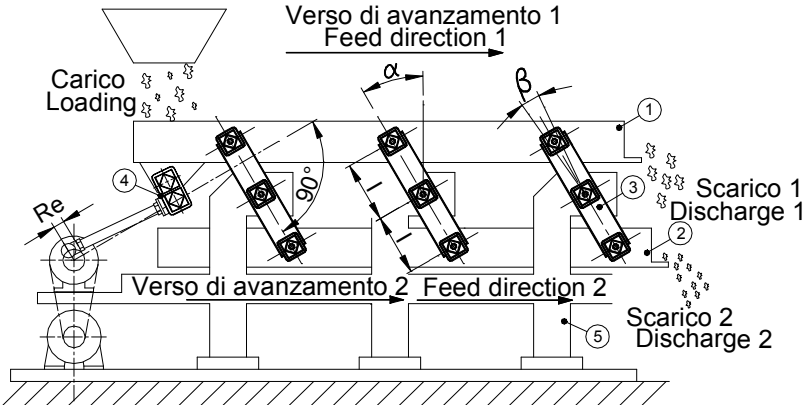
Q: 每个悬架最大负载 以 N 表示/ *Max loading in N per suspension*

J: 振动机器指数 / *Oscillating machine factor*

n: 偏心轮最高旋转速度 以 min^{-1} 表示 最大角度为∢10° 从位置 0 波动∢ ±5°
Max crank rotation velocity in min^{-1} at the max angle ∢10° from 0 ∢ ±5°

D_m: 最大振幅 以 mm 表示 / *Max amplitude given in mm*

E_d: 动力弹性 以 Nm/°表示 角度为∢ ±5°, 频率范围从 300 至 600 min^{-1}
Dynamic spring value in Nm/° at per ∢ ±5°, in frequency range 300-600 min^{-1}



图例说明 / *Key*:

1: 上端滑槽/ *Superior sliding chute (trough)*

2: 下端平衡重块/ *Inferior counter mass*

3: VIB TD-F 型悬架 / *TD-S Suspension*

4: VIB AD-P 型振动组件 / *AD-P Oscillating Component*

5: 底盘 / *Base plate*

α: 安装角度从 20°至 30° / *Rocker angle from 20° to 30°*

β: 工作角度 / *Working angle*

I: 轴距 / *Distance between centers*

材料

外部结构为钢制，内部方管为铝制拉丝。

处理

外部结构为烤炉涂漆，内部方管由 RAL 涂漆覆盖。

使用

TP-P 振动组件主要应用于使用连杆曲柄制动的具重量块和平衡重块的输送机和振动筛中具不可变轴距的弹性悬架。

MATERIALS

The external structure is made of steel while the inner squares are made of light alloy profile.

TREATMENTS

The external structure is oven-painted, while the inner squares are covered with a RAL varnish.

DUTY

TD-F Oscillating component is generally use to realize rocker suspensions for conveyors or screens with two-mass (trough – counter mass) actuated by a connecting rod/crank device.

计算实例: 振动输送机所需的悬架数目的计算，使用由 TD-S 40 或 TD-F 40 构成的组件。

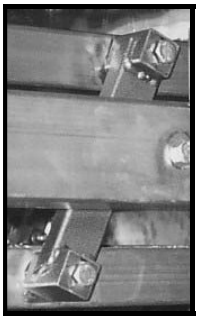
CALCULATION EXAMPLE: *Determination of the mounting number for an oscillating conveyor using TD-S 40 or TD-F 40 type*

起始数据 / *Given data:*

n:	旋转速度: *Rotation velocity*:	385 min^{-1}	**R_e:**	曲柄半径: *Crank radius*:	18 mm
G_g:	槽重: *Chute weight*:	1734 N	**E_d:**	动力弹性: *Dynamic spring value*:	29.9 Nmm/°
G_m:	所输送物料重量: *Material weight*:	300 N			

未知数据 / *Unknow data*:

X: 应使用的悬架数目 / *Number of mountings*



计算步骤 / *Calculation steps*:

J: 振动机器指数 *Oscillating machine factor*

$$= \frac{\left(\frac{2\cdot\pi\cdot n}{60}\right)^2\cdot Re}{9810} = \frac{\left(\frac{\pi\cdot 385}{30}\right)^2\cdot 18}{9810} = 3.0$$

总重量 G 为槽重 (**G_g**) 与所输送物料重量的(**G_m**) 的 22%的总和

*The total weight G is given by the sum of weight of the chute (**G_g**) plus 22% of the weight of the material to be conveyed (**G_m**)*

G: 总重量 *Total weight*

$$= G_g + \frac{G_m\cdot 22}{100} = 1734 + \frac{1000\cdot 22}{100} = 1800\ N$$

E_t: 总弹性 *Total spring value*

$$= \frac{G}{9810}\cdot\left(\frac{2\cdot\pi\cdot n}{60}\right)^2 = \frac{1800}{9810}\cdot\left(\frac{\pi\cdot 385}{30}\right)^2 = 298\ N/mm$$

1) 在无共振条件下 / *Without resonance condition*:

X: 组件数目等于振动块总重除以一个悬架所允许的负载，即：
The number of the elements X is obtained by dividing the total weight of the oscillating mass by the load permitted by one mounting, so:

$$= \frac{G}{Q} = \frac{1800}{280} = 6.43 \rightarrow 8$$

结论: 应使用至少 8 个 **TD-S 40** 或 **TD-F 40** 悬架组件。

Conclusion: *It must be used 8 pcs **TD-S 40** or **TD-F 40** mountings at least.*

2) 在共振条件下 / *With resonance condition*:

X: 悬架的总弹性 E_t 应大约为动力弹性以上 10% ，即:
The total spring value E_t of the mounting must be at least 10% greater that than the dynamic spring value, so:

$$= \frac{E_t}{0.9\cdot E_d} = \frac{298}{0.9\cdot 29.9} = 11.07 \rightarrow 12$$

结论: 应使用 12 个 **TD-S 40** 或 **TD-F 40** 悬架组件。

Conclusion: *It must be used 12 pcs **TD-S 40** or **TD-F 40** mountings at least.*