DE =	EN=	PT =	VN =
Technische Information (Mausmappe)	Technic Information (mouse mape)	Informacao Tecnico	Thông tin kỹ thuật

de=	**1_Wärme Ausdehnung**	Pro Grad Meter	**5_Kabel_Wire_Fio_ Info_ Cu**			Dây dẫn Kabel_Wire_Fio_ Info_ Cu			Kabel_Wire_Fio_ Info_ Cu			**15_1 kg= 2.2046 lb**
en=	Thermal expansion	Per degree, Meter	See AWG (American Wire Gauge)			4 mm/2	2,20	20 Am	2,2	35 mm/2	6,67	80Amp(135)	1 fuss pfund = 1 ft_lb
	Stahl_Steel_Ago_ Thép	0.012 mm/ Faktor 83333	0.75 mm/2	0,97	4 Amp(10)	6 mm/2	2,76	25 Am	**2,76**	50 mm/2	7,97	100 Amp(168)	1 Nm = 0,7375621 Foot-Pound
	Alumnium_ Nhôm	0.024mm, Faktor 41666	1 mm/2	1,12	6 Amp(15)	10 mm/	3,56	35 Am	**3,56**	70mm/2	9,44	125 Amp(207)	1 feed = 12 inch = 304,8mm
	Berchenungsbeispiel: mm / 83333* Grad differenz		1.5 mm/2	1,38	10Amp(18)	16 mm/	4,51	50 Am	**4,51**	95mm/2	10,55	160 Amp(250)	1 Nm = ft_lb * 1,358
	=Dehnung z.b 50/83333*80=0,048mm		2.5 mm/2	1,78	16Amp(26)	25 mm/	5,64	63 Am	**5,64**	120mm/2	12,36	200 Amp	1 ft_lb = Nm / 0,7375621

DE=	EN=	PT=	VN=	
2_Spezifisches Gewicht	**Specific gravity**	**especifico Gravidade**	**Trọng lượng riêng**	Kg/ lít
Wasser	Water	Agua	Nước	1
Stahl	Steel	Aço	Thép	7,8
Beton	concrete	Cimento	Bê-tông	2,4
Sand	Sand	Areia	Cát	1,8
Aluminium	Aluminium	Aluminio	Nhôm	2,7
Messing	Brass	Latão(Bronze)	Đồng	8,4
Blei	Lead	Chumbo	Chì	11,34
Holz	Wood	Madeira	Gỗ	0,18
Diamant	Diamond	Diamante	Kim cương	3,5

6 _Zug/Druckkraft = Drehmoment * 2pi / Spindelsteigung * Spindelwirkungsgrad.
Zug/Druckkraft = 1Nm * 6.28 / 0.010m * 0.8 = 502N = ca. 50Kp also bei 10NM = 500Kp

DE=	EN=	PT=
8_Zylinder Infos	**Cylinder facts**	**Cilindro Informacao**
vn=	**Thông tin về xy lanh**	
Durchm./Dia	3 bar	6 bar
16	53/46	106/91
20	82/69	164/137
25	129/108	259/216
32	212/182	422/364
40	333/280	664/560
50	517/436	1035/871
60	824/739	1647/1478
80	1328/1199	2656/2397
100	2072/1199	4145/3886

1 Joule = 1 Nm / 10 N = ca. 1 Kg

11 _Allg Info/ Div Infos/ thông tin chung		**16_1 Inch= 25,4 mm**
1KW	1.341 HP	1 Fuss/foot = 12 Inch
1 PS / HP	75 Kp/1 Meter / sekunde	12 x 25.5 = 304.8 mm
1 PS / HP	735,49 Watt	1 Yard = 36 Inch=
1 Kcahl/h	1,163 Watt	36x 25.4 mm = 914.4mm
1 Kp/m/s	8.4322 Kcahl	1 Meile = 1760 Yard =
1 Watt	0.102 Kp/m/s	1 are= 10 x 10 Meter=100m/2
1 Watt	0.00136 PS	1 Ha= 100x100Meter
1.163 Watt	1 Kcahl	10000m/2

12_1 Kcahl/h	**0.00158 Ps**			**17_Efficiency**
Volumen	Volum	Tính	Calculo	Diesel Eng. 45 %
Kalkulation	Calculation	dung tích	Volume	Gasol Eng. 37%
				El Motor 0.9-0.99
liter	Liter	Lít	Intros no	Trapezsp 40_50%
in fass	in Drum	trong thùng	Barril	Ballscrew 80%
r/2 x 3.14 x höhe_high_altura_chiều cao				El-welding Amp
Oder_or_ou_hoặc		coma 2 left in mm		40x electrode =
dxd x 0.785 x höhe_high_altura_chiều cao				Amp

3_Gewinde Bohrer	**Taps Info**	**Rosquear (rosca) Madro Lưỡi khoan Ren**	de= Berechnungs Hilfe
			en= Calculation help
			pt= Cálculo ajuda
			vn= Tính giúp đỡ
M3	2,5	0,5	4_Kreis = 78,5% von Quadrat
M4	3,3	0,7	6 Kant = 10,625% + von SW
M5	4,2	0,75	gegebüber rund(hexa)
M6	5	1	1mm/2 chip = 2000N(200kp)
M8	6,75	1,25	Modul or DP = OD /
M10	8,5	1,5	teeth + 2 teeth, =
M12	10,2	1,75	calulate mm or inch
M16	14	2	1 bar / atü = 1 Kp cm/2
M20	17,5	2,5	1psi 0.0689bar
M24	21	3	1 bar 14,5 psi
M30	25,5	3,5	8.8 = 880 N mm/2
M36	32	4	12.9= 1290 N mm/2

7 _Spindelwirkungsgrad:
ca 0.4-0.5 für Trapezspindeln

9_Schrauben Information	**Screw Information**	**Parafuso Qualidade**	
vn=	**Thông tin về ốc ,vít**		
M-Gewinde	Qualität 8,8	Qualität 12,9	
4,6	N 1 / N2	N 1 / N2	
M3	2440_1.11	4120_1.88	13_Kw= Nm x Rpm x 3.14/ 30000 = KW
M4 1,02	4230_2.55	7140_4.3	Nm= KW/RPMx30000/3.14_NM
M5 2	6910_5.11	11650_8.45	KW zu KVA= Kv KVA=80% KW
M6 3,5	9760_8.6	16450_14.5	Ampere= Watt/Volt 1 Phase=)Ampere
M8 8,4	17900_21	30200_35	Ampere= Watt/Volt / 1.73= Amp 3 Phase
M10 17	28500_42	48100_70	V= Watt/Ampere (info / = :)
M12 29	41500_72	70000_121	U =Volt = Resistant x Ampere U=RxI
M16 71	78300_174	132000_295	R = Resistant = Volt/ Ampere R=U:I
M20 138	122500_340	206000_570	I =Ampere= Volt/ Resistant I=U/R
M24 235	176000_580	297000_980	P = Watt P=UxI _ U= P/I _ I= P/U
M36 1080	427000_2450	711000_4150	

18_Friction	**dry**	**oel**
Stahl_Grauguss	0,18	0,01
Stahl _Stahl	0.08 to n.25	
Stahl_PTFE	0.04	0.04
ALU_Alu	1.05	1.04
Stahl_Messing	0.2	
statyt frict dry		
steel/steel	0,08-0,25	
dynm frict dry		
steel/steel	0,06 - 0,20	

de= **4_Faustregel für Kernloch Durchmesser Gewinde_ Minus Steigung = Kern Durchmesser**
en= Rule of thumb core hole minus slope (M20 - 2.5 = 17.5)
pt= Regra: do ouro para o diametro da broca e sempre negativa Gradiente M (exemplo M20 – 2.5 = 17.5)
vn= Luật đơn giàn tính đường kính lỏi M _ trừ bước ren = đường kính (M20 – 2.5 = 17.5)
de= Faustregel: Der Kreis zum Quadrat hat 0.785 Anteil

10 _1 ft_lb = 1 Nm * 0,7375621	**14 _1 Nm = 98,665 Gramm**	**19_Angle info =**
1 ft_lb = 1 Nm / 1.358	9.80665 Nm 1 Kp	45° = 1,414 (0,707) 30° =
1 lb = 1 Pfund	1 kN = 1000N = 100 Kg	a/2 + b/2,
1 lb = 0.453 kg	10 kN = 10000N = 1000 kg	√ (wurzel ziehen) = c
	1 Joule = 1 Nm	

gezeichnet:	HPW	Datum:	04.06.2013	eduction project	Technische Information	translate/en_ds/p_ct/vn_ro	orign: WIAP KFKOK
Aenderung:	hp	Datum:	20.05.2022	WIAP KFKOK	Technic Information	r23	datei_wi_8_f_6_a2_r20a_mousmap
Aenderung:	control 2	Data:	20201022	Safenwil Schweiz	© copyrigth	www.wiap.ch	idee of / from: HPW