Einfache und praktische Messgeräte für biomechanische Grenzwerte an kollaborierende Roboter

Referent

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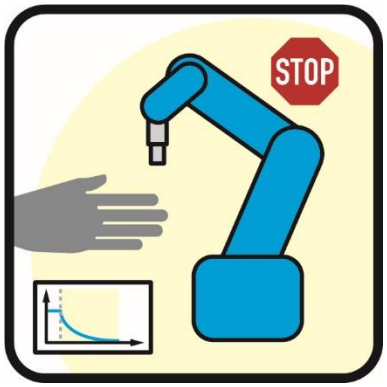
internet: www.gte.de

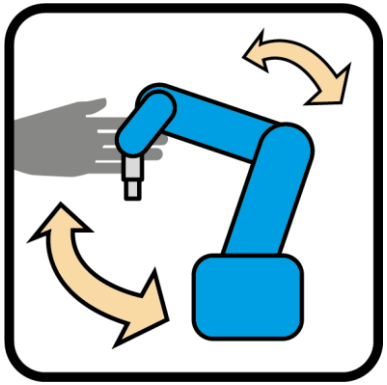
Biofideles Messgerät

MRK

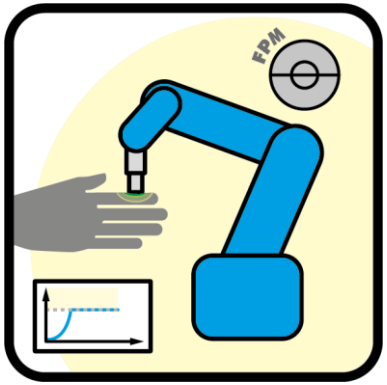
Abstandsüberwachung



Sicherheitsstopp

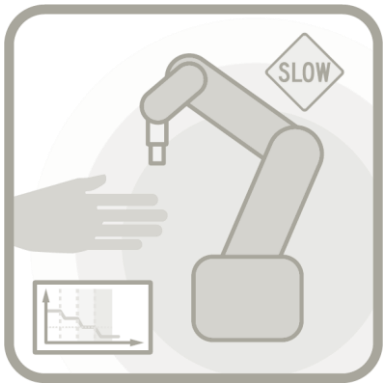


Handführung

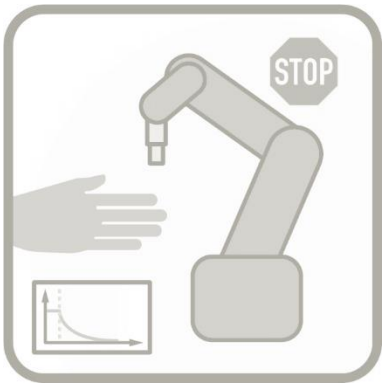


Kraftbegrenzung

MRK



Abstandsüberwachung



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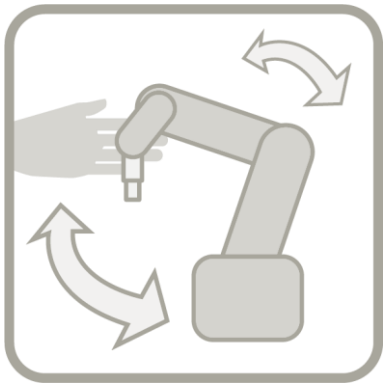

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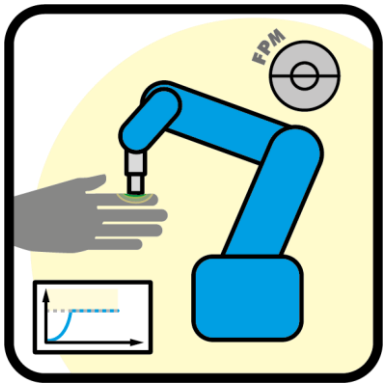

Kraftbegrenzung

Literatur

- DIN EN ISO 10218
- ISO / TS 15066

- DGUV Information

  FB-HM 080

Literatur

- DIN EN ISO 10218
- **ISO / TS 15066**

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Literatur

- DIN EN ISO 10218
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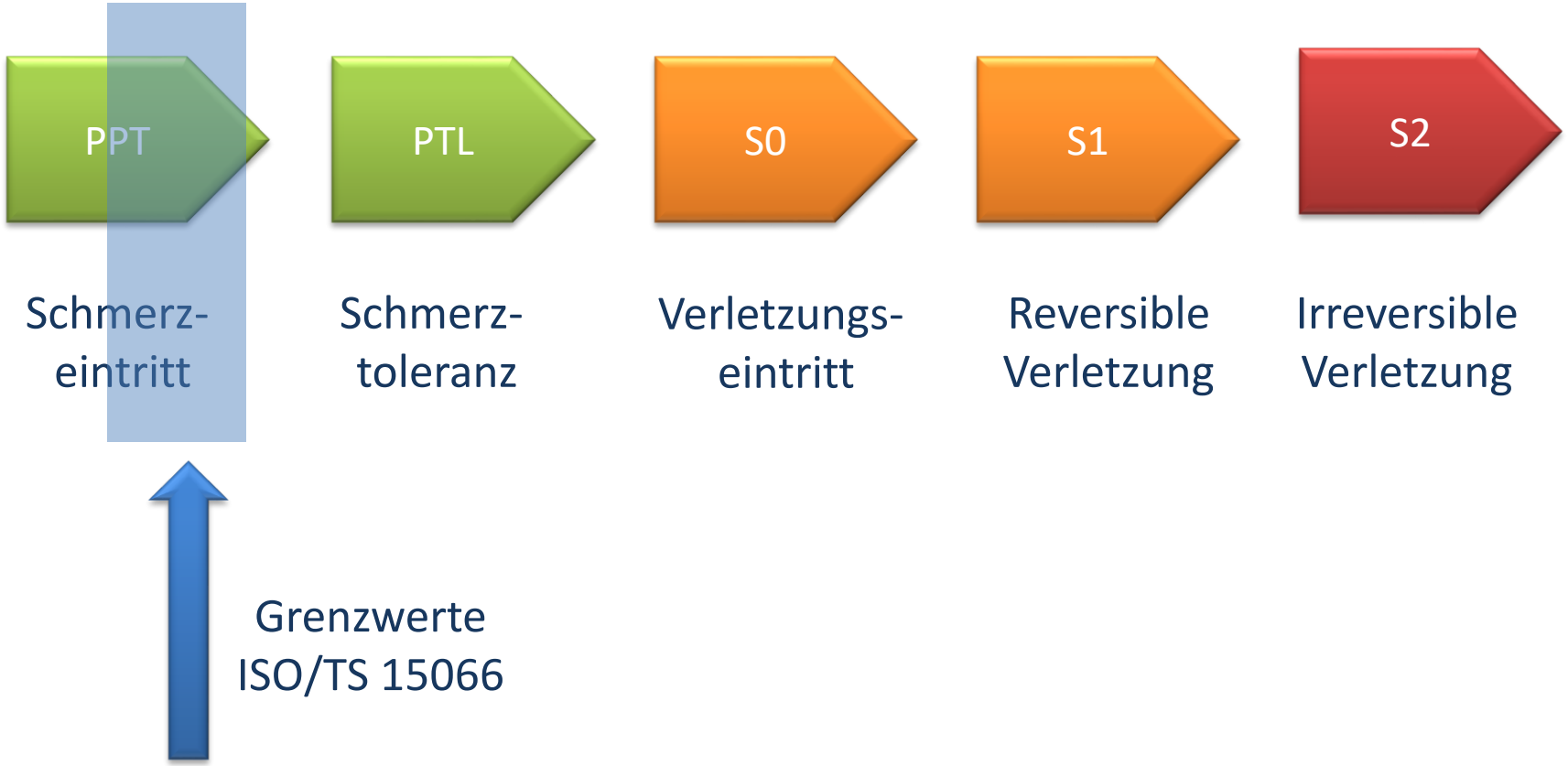
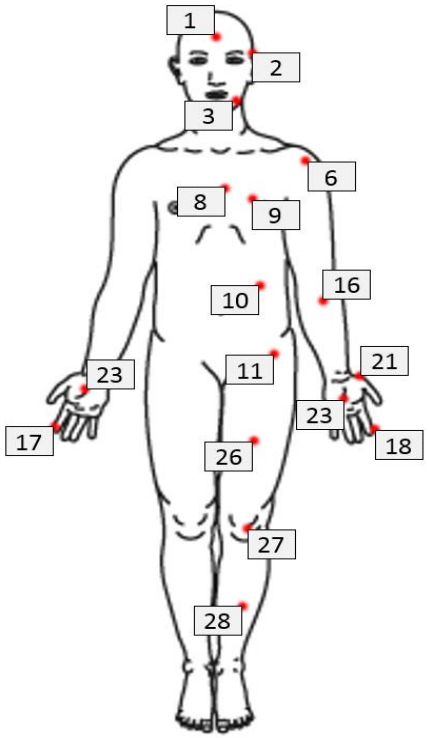
Grenzwerte

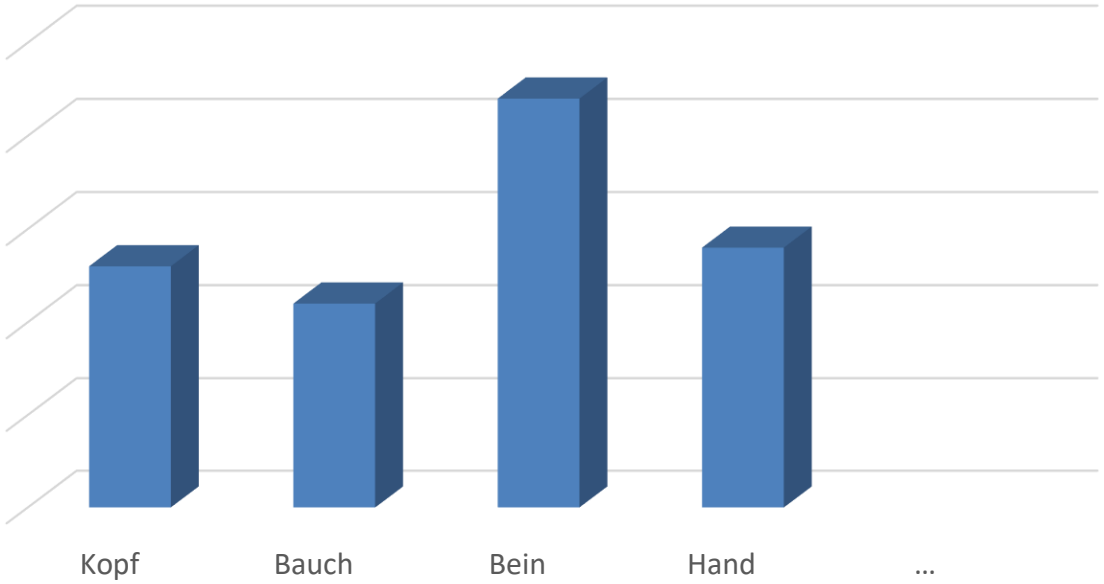
Schmerz-eintritt	Schmerz-toleranz	Verletzungs-eintritt	Reversible Verletzung	Irreversible Verletzung

Grenzwerte


PPT
PTL
S0
S1
S2
Schmerz-
eintritt
Schmerz-
toleranz
Verletzungs-
eintritt
Reversible
Verletzung
Irreversible
Verletzung
Grenzwerte
ISO/TS 15066

Grenzwerte





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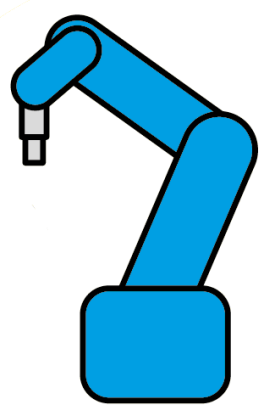

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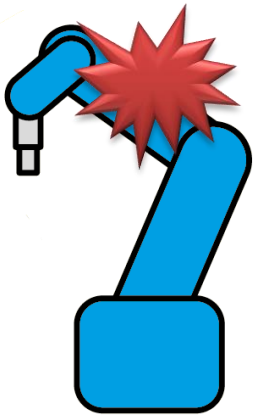

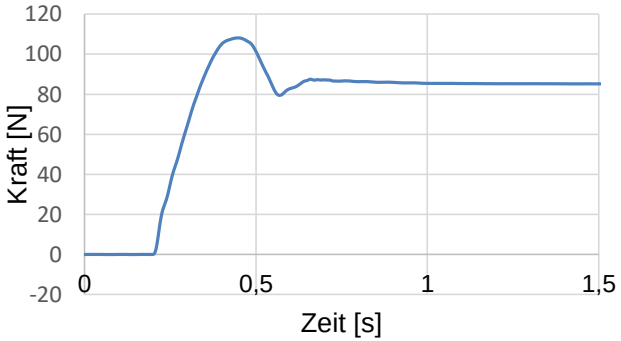

Grenzwerte

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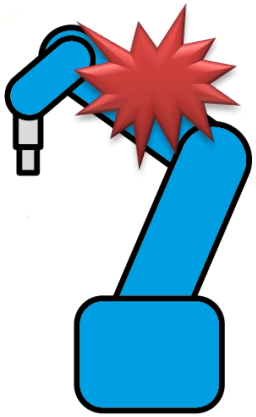

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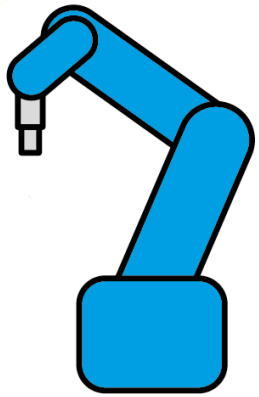
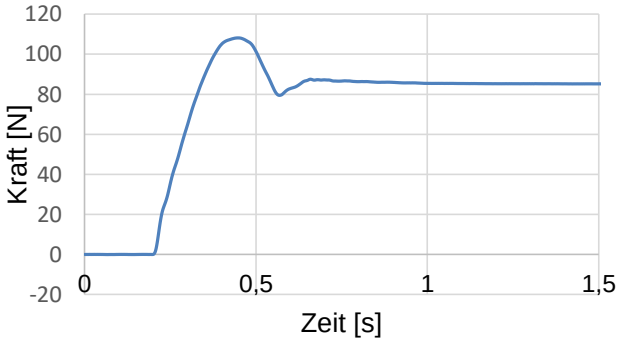
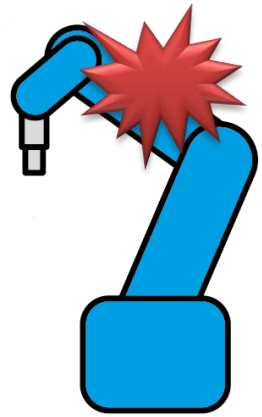




Grenzwerte

Kraft



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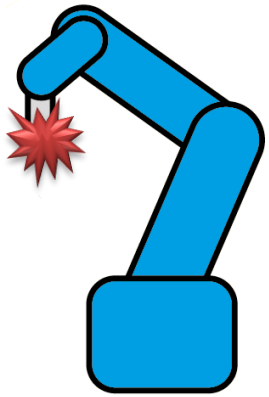

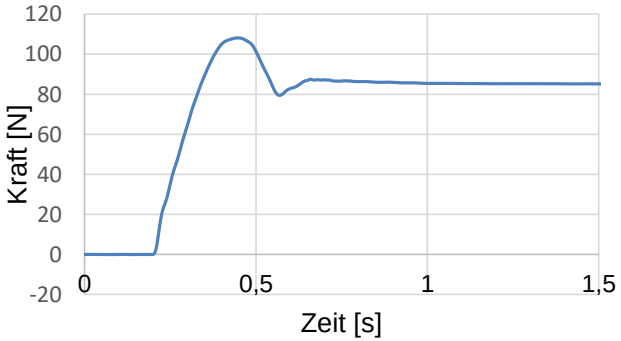

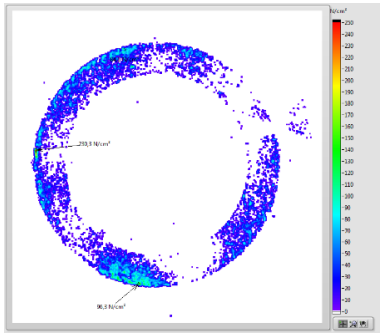

Messgerät

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- DGUV Information

  FB-HM 080

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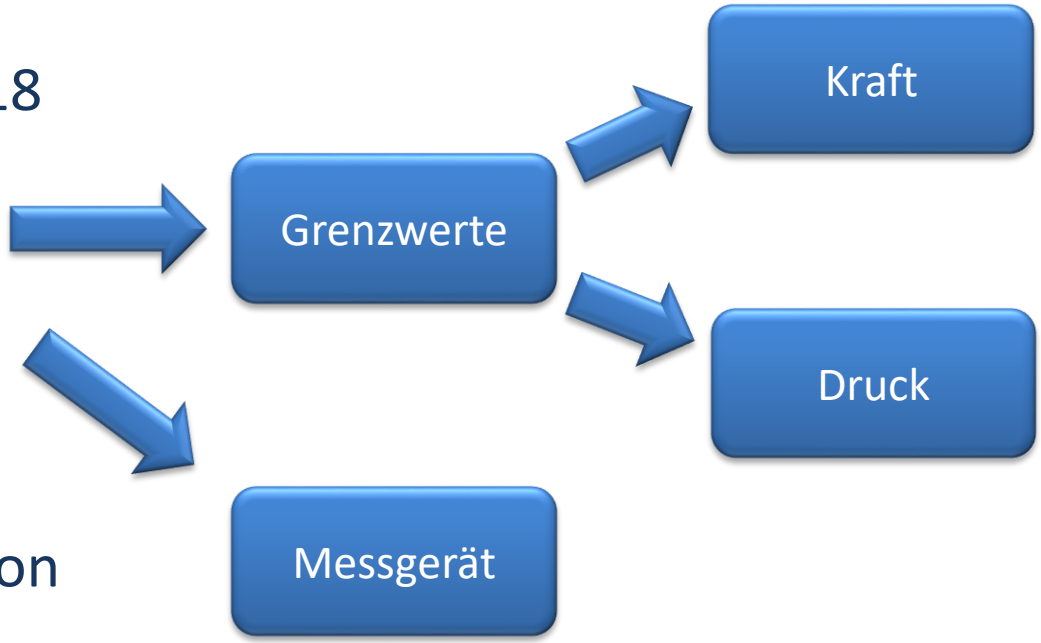
- DIN EN ISO 10218
- **ISO / TS 15066**

- DGUV Information

  FB-HM 080



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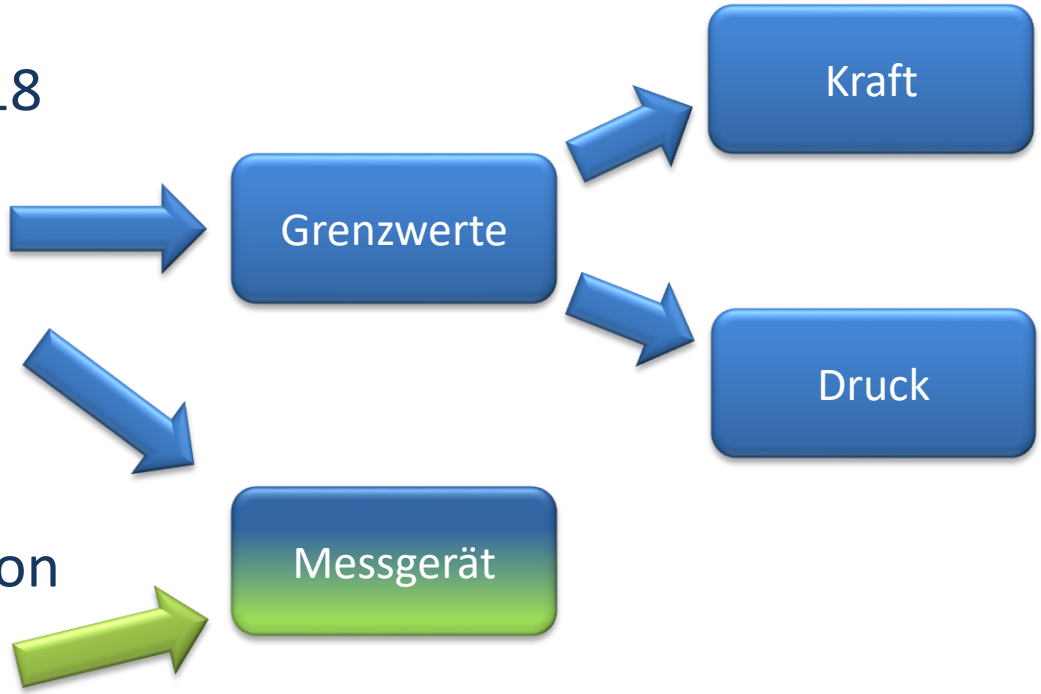

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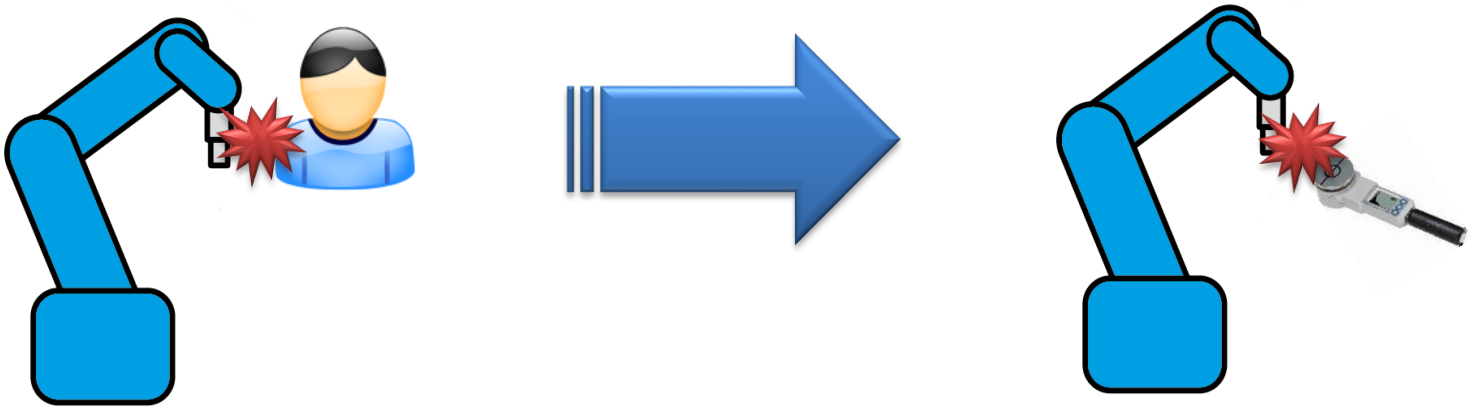

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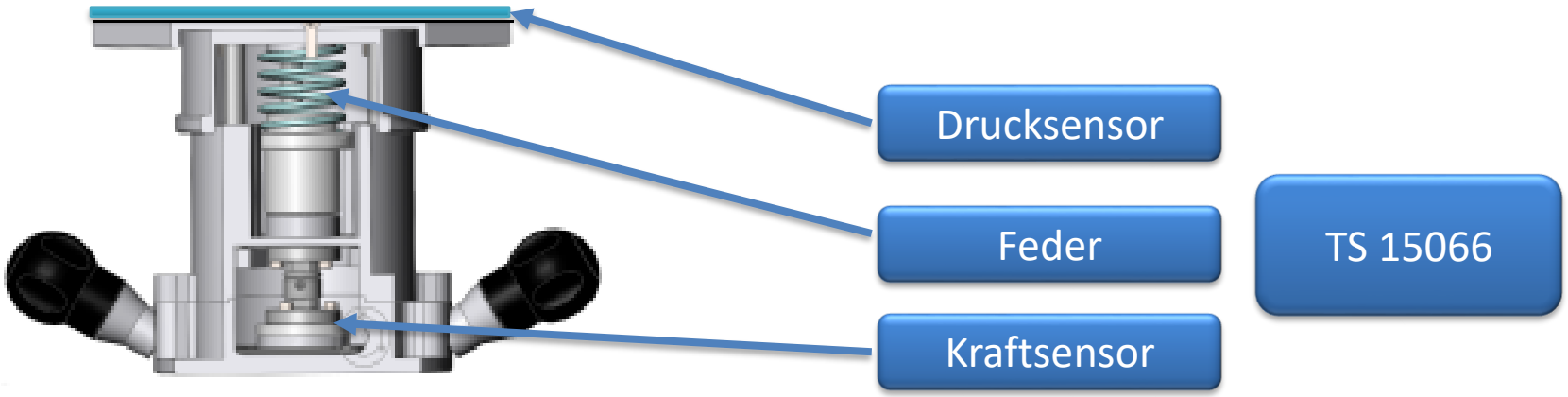

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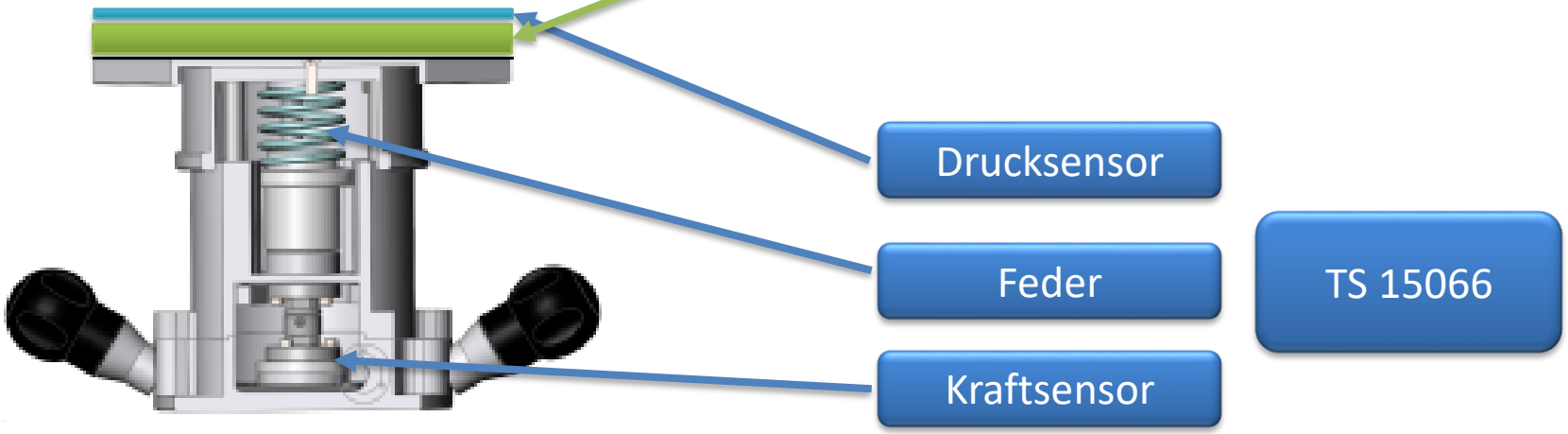

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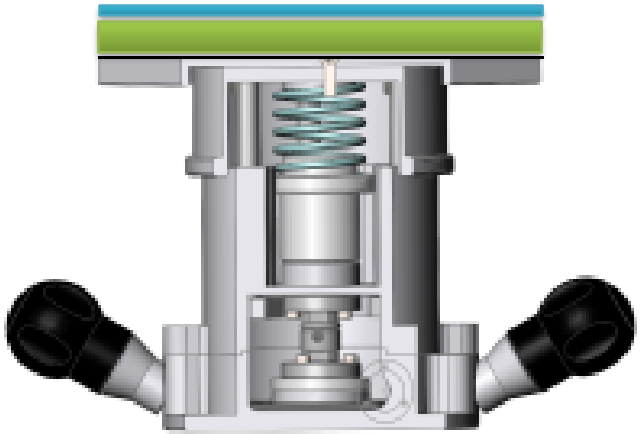
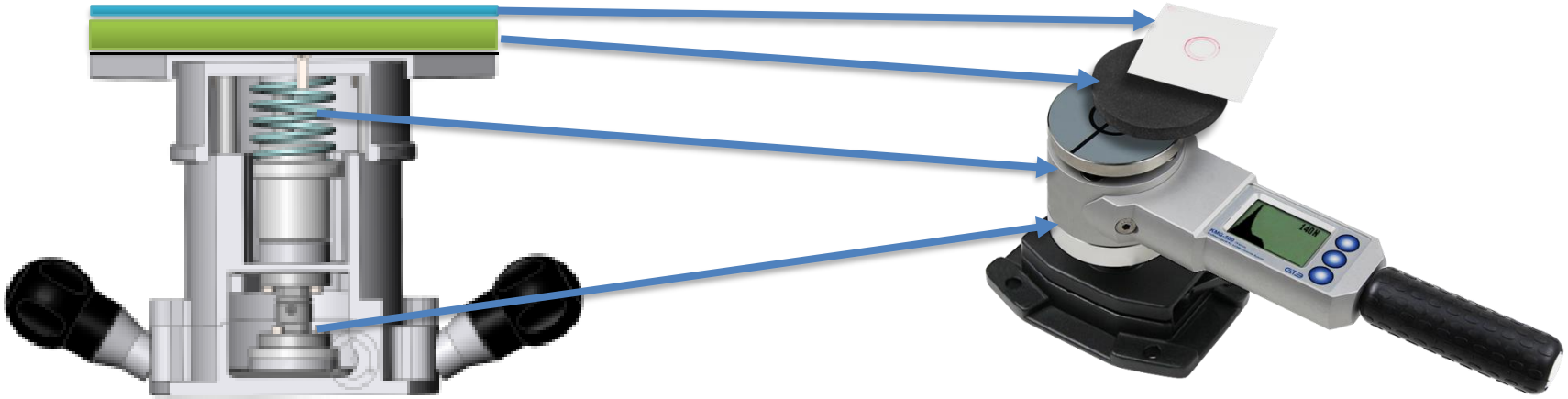


BGHM
Berufsgenossenschaft
Holz und Metall

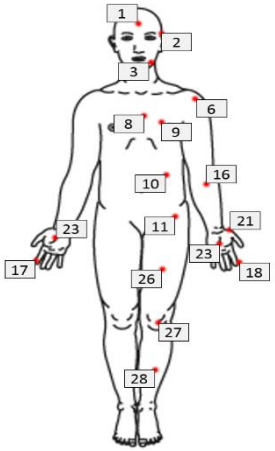
GTE Industrieelektronik GmbH

Messgerät



Messung

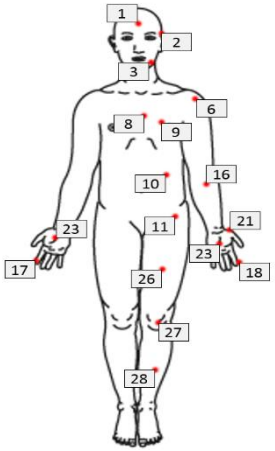
Kollisionspunkt



Messung

Kollisionspunkt

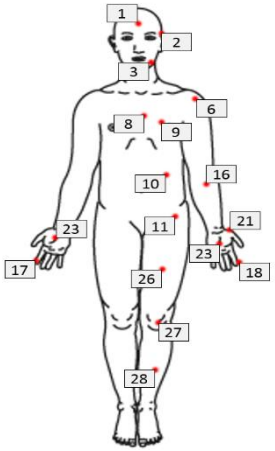
Biofidele Konfiguration



- Dämpfung
- Weich
- Mittel
- Fest

Messung

Kollisionspunkt → Biofidele Konfiguration → Kollision Messung



- Dämpfung
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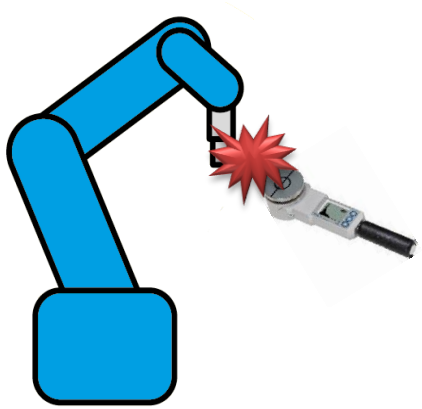
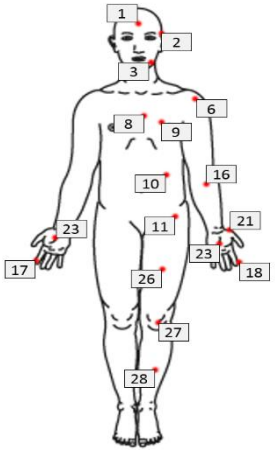


Messung

Kollisionspunkt → Biofidele Konfiguration → Kollision Messung → Auswertung



- Dämpfung
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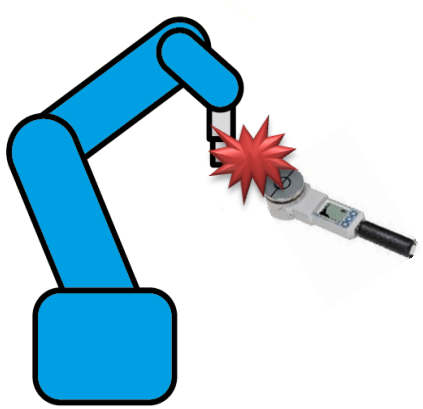
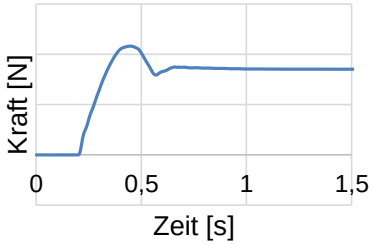
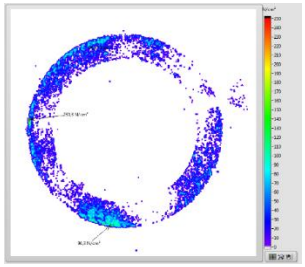
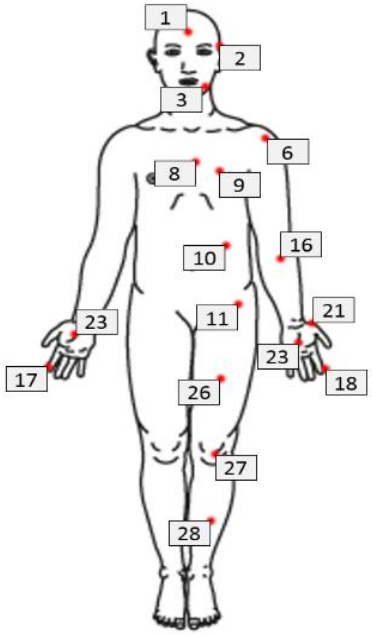
- Mittel
- Fest





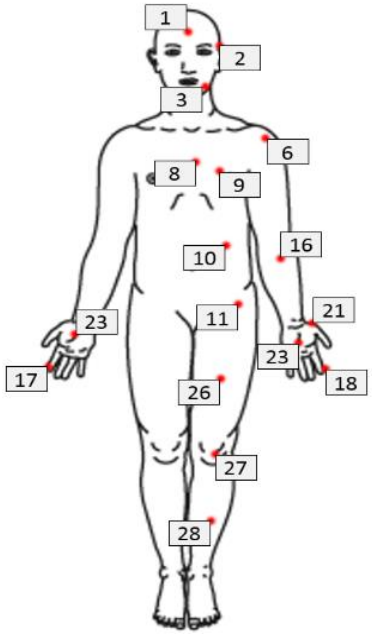


Kollisionspunkt & Biofidele Konfiguration



29 Zonen

Kollisionspunkt & Biofidele Konfiguration

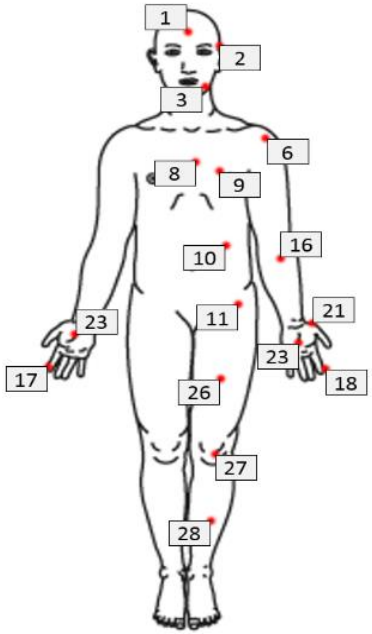


- Schädel / Stirn
- Gesicht
- Hand
- Unterarm
- Brust
- Becken
- Nacken
- Unterschenkel
- Oberschenkel
- Rücken / Schulter
- Oberarm
- Bauch

29 Zonen

12 Zonen

Kollisionspunkt & Biofidele Konfiguration



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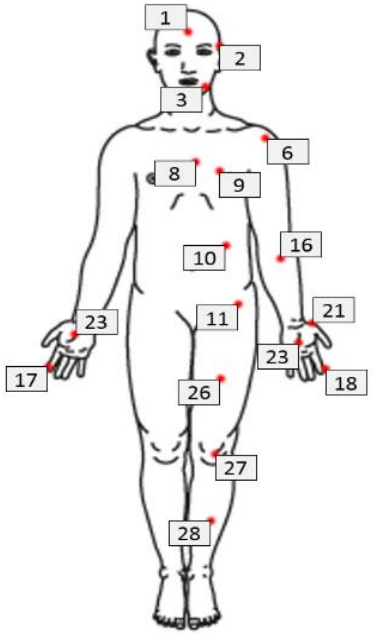
→ Weich

29 Zonen

12 Zonen

FB HM 080

Kollisionspunkt & Biofidele Konfiguration



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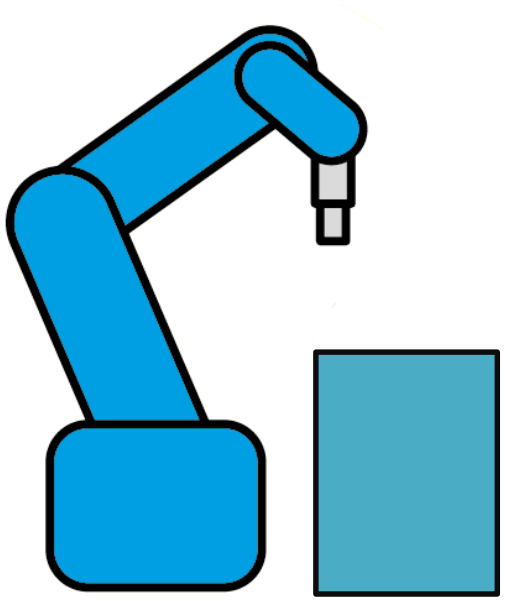
Kollisionsauswahl



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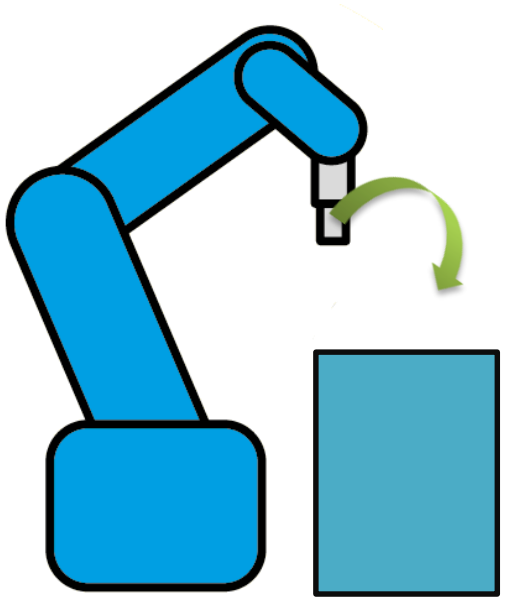

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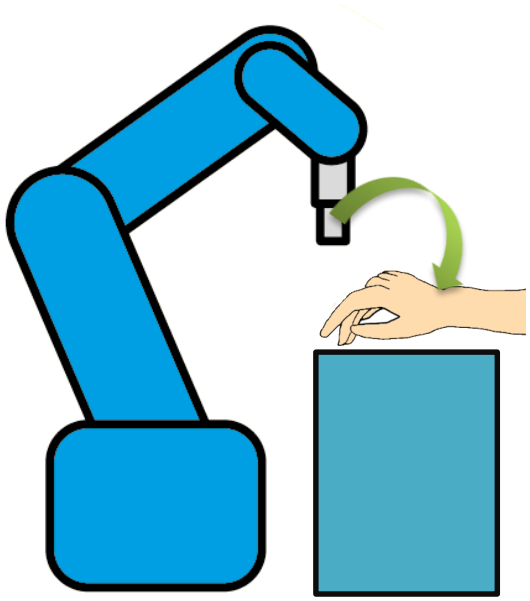

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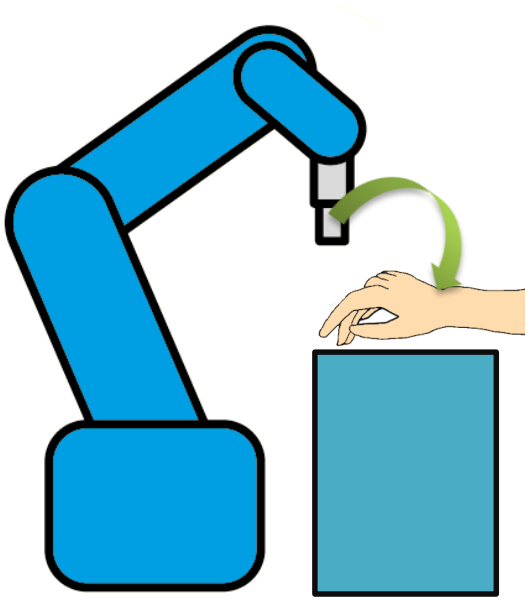

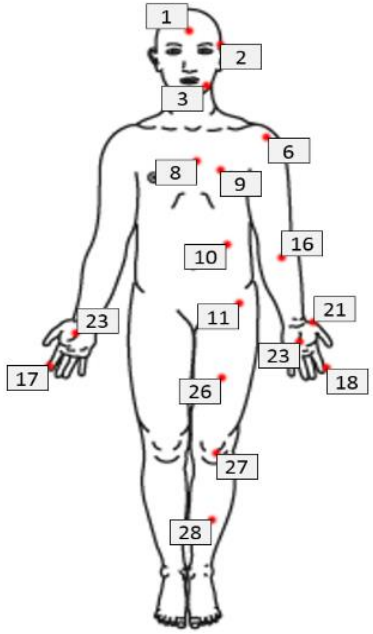

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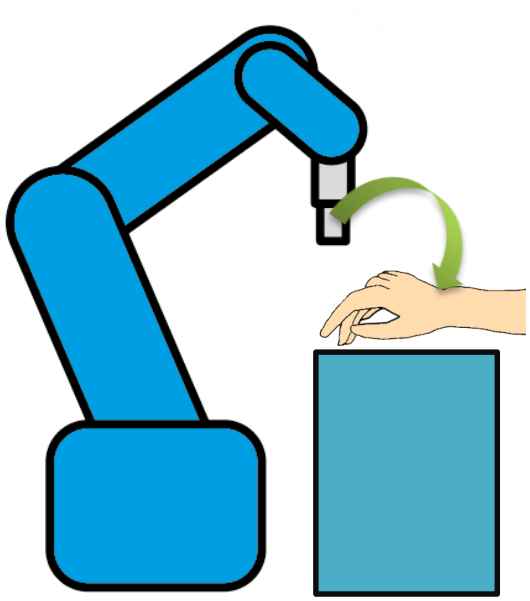
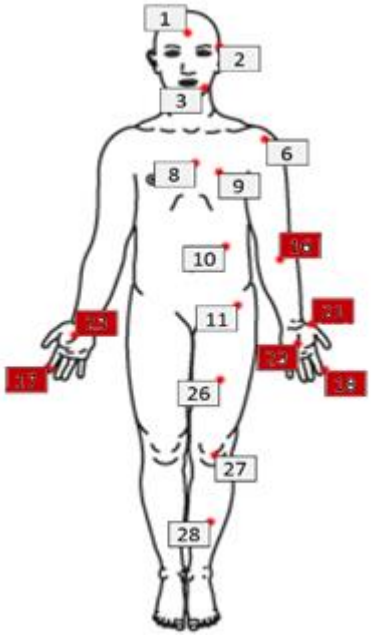
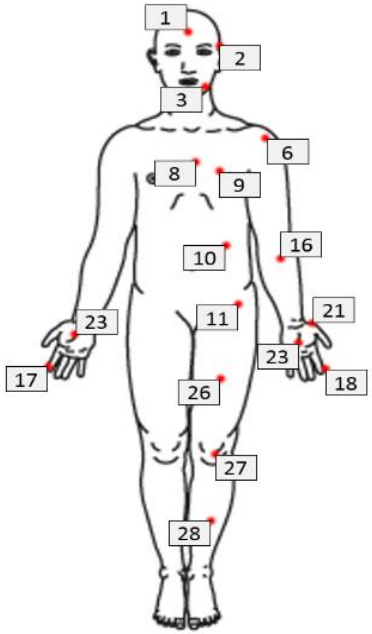




Kollisionspunkt & Biofidele Konfiguration



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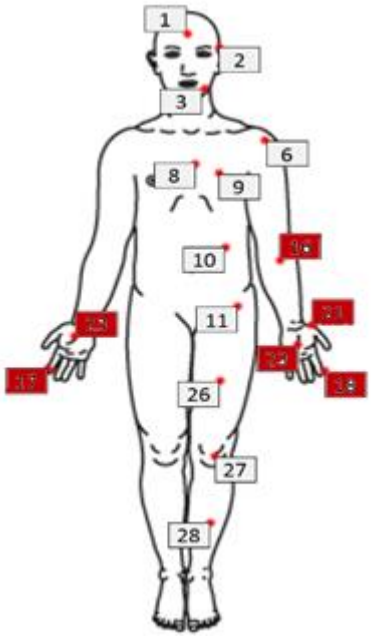

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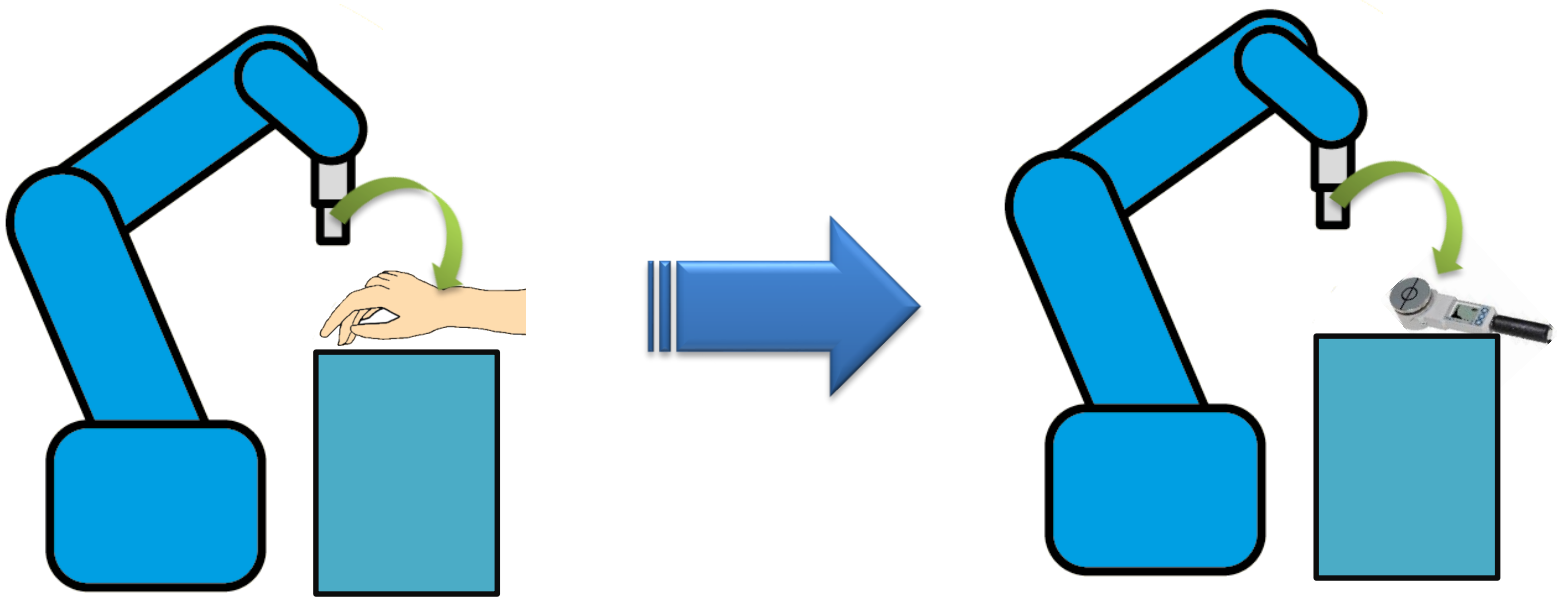


Theorie

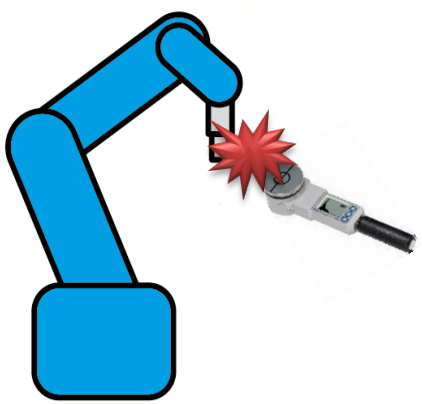
Messung

Kollision & Messung

Aufbau & Programmierung

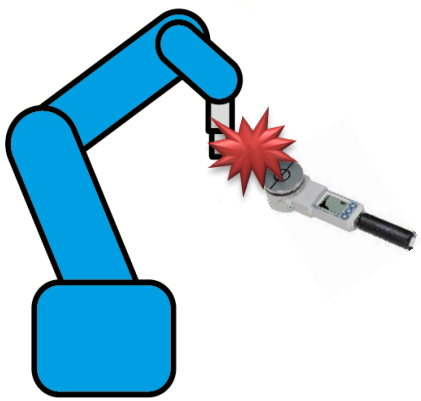
Kollision & Messung

Aufbau & Programmierung



Kollision & Messung

Aufbau & Programmierung

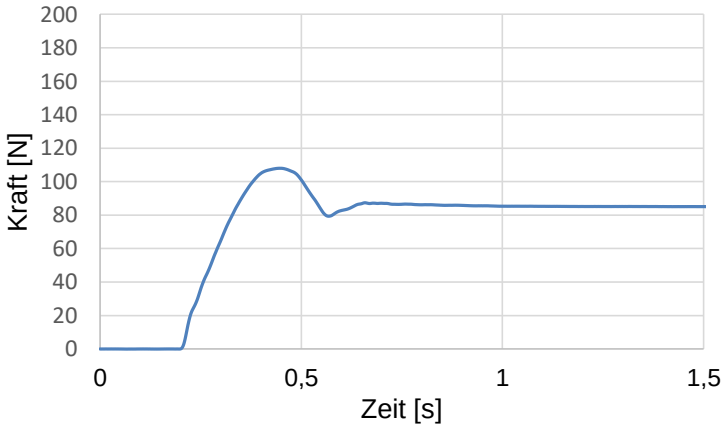


Datenerfassung

Datenerfassung

Kraft

USB → PC



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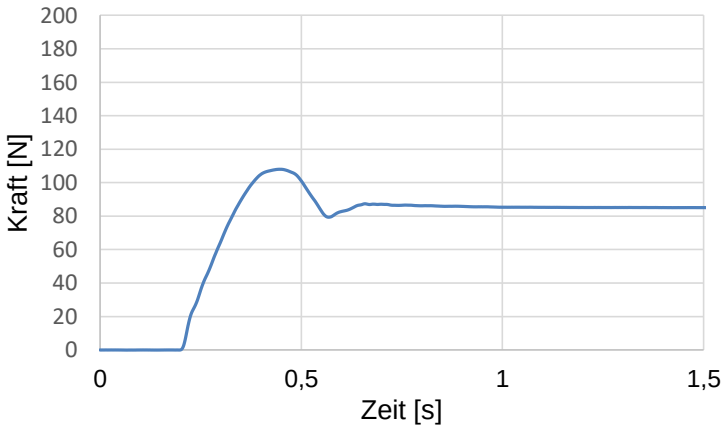
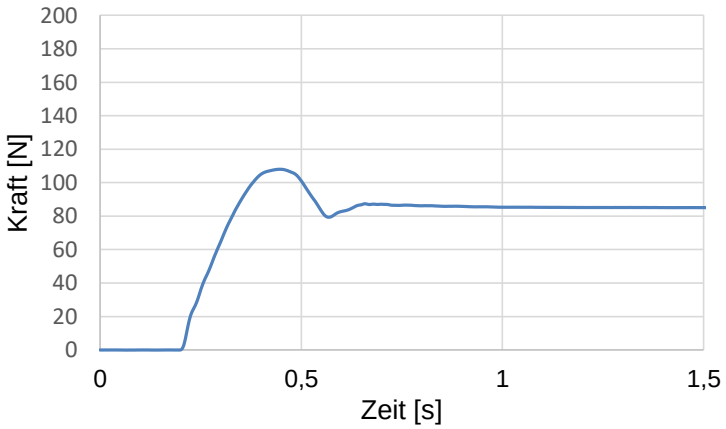


Datenerfassung

Druck

Kraft

USB → PC



Datenerfassung

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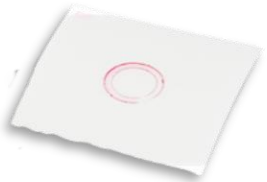

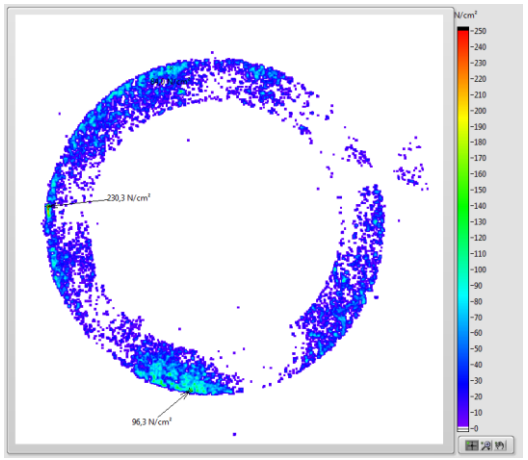

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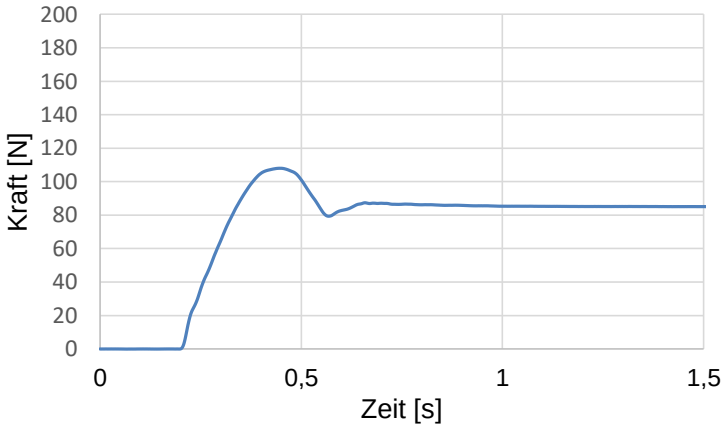
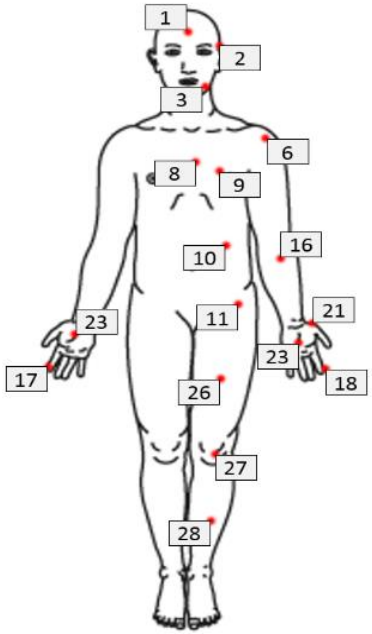


Auswertung

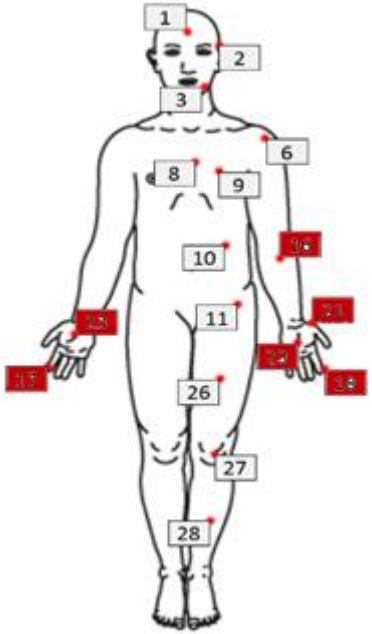


- Schädel / Stirn
- Gesicht
- Hand
- Unterarm
- Brust
- Becken
- Nacken

- Unterschenkel
- Oberschenkel
- Rücken / Schulter
- Oberarm

- Bauch

Auswertung



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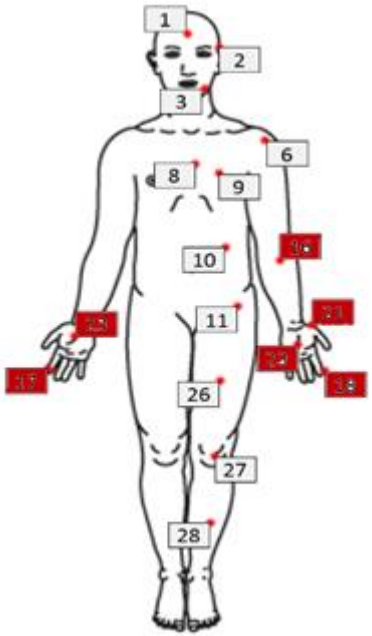

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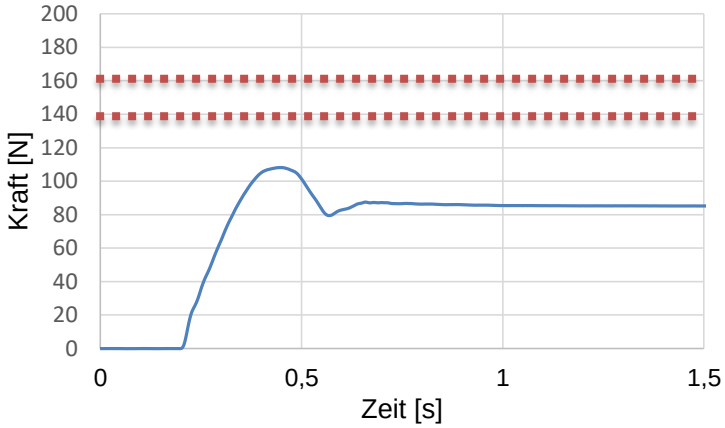
Grenzwerte



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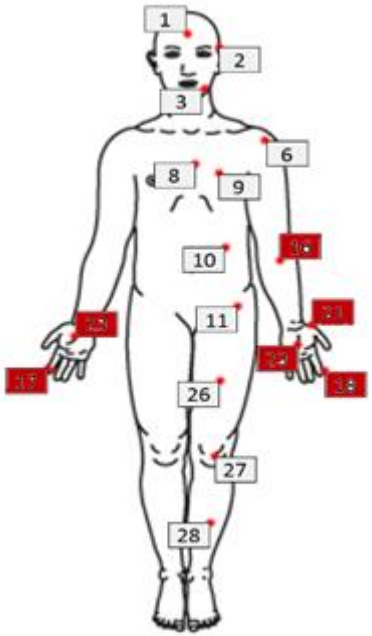

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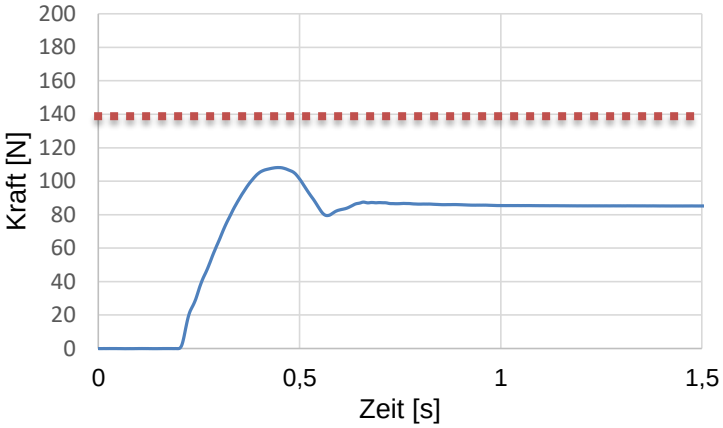
kleinster Grenzwert



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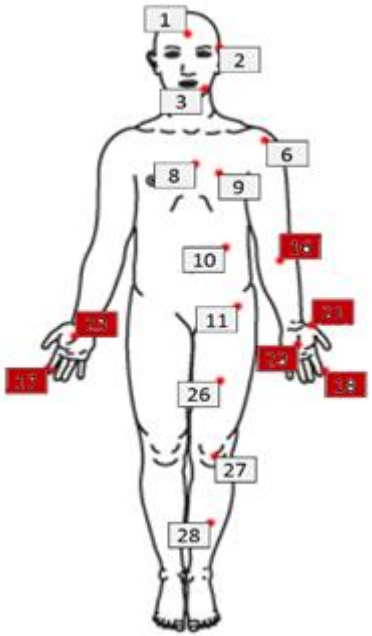

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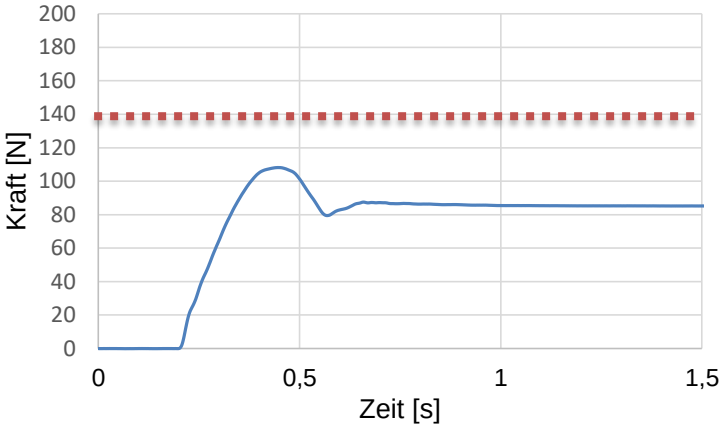

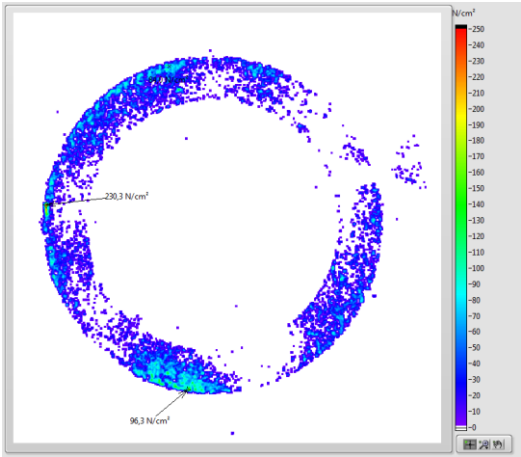

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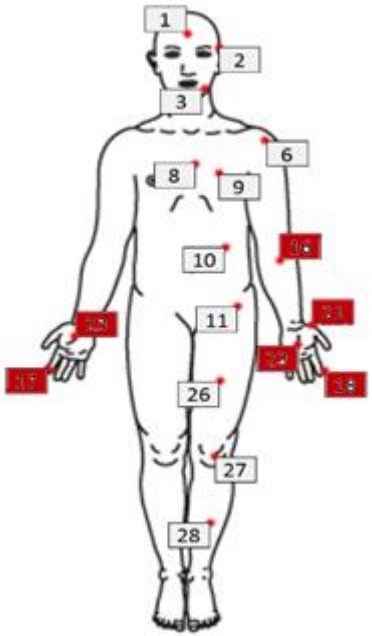

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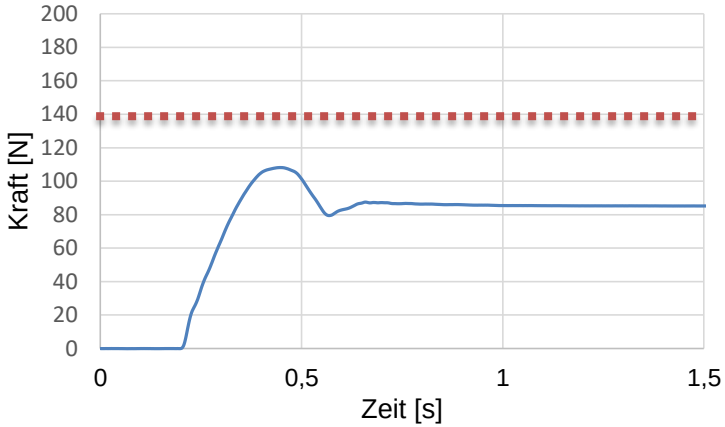

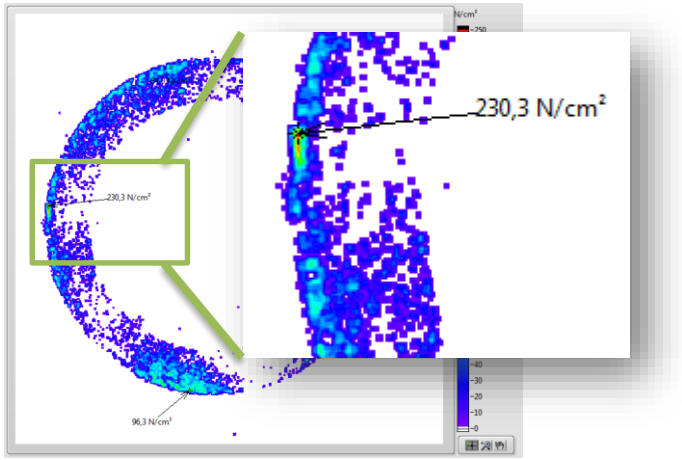

Messsystem

KMG 500 & KMG 300

Messsystem

KMG 500 & KMG 300

Druckmessung mit FUJI

Messsystem

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Druckmessung mit FUJI

Dämpfungselemente

Vielen Dank für Ihre Aufmerksamkeit

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