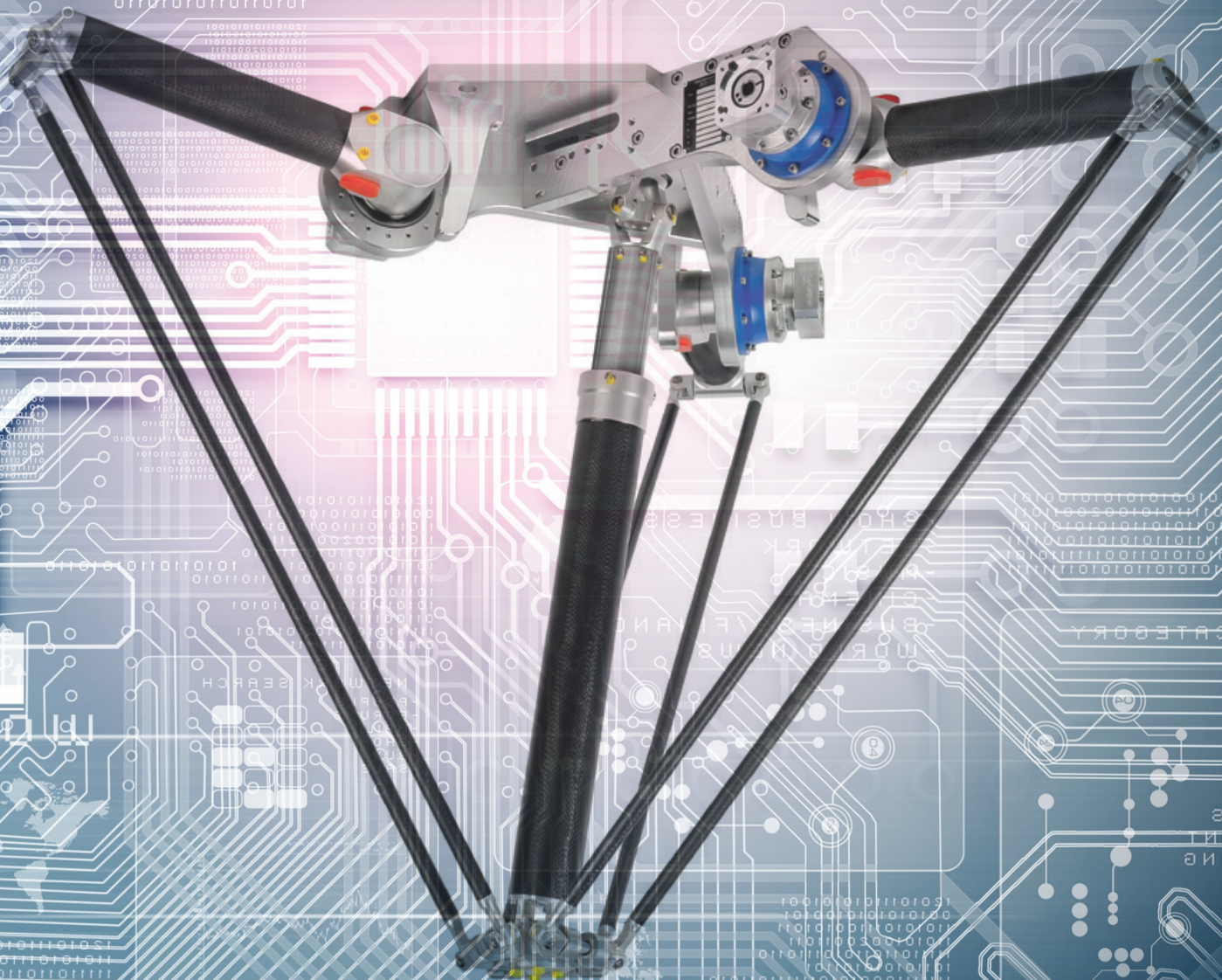


DELTA ROBOT

델타 로봇



► **STANDARD DELTA robot mechanics** (100여개의 DELTA ROBOT 표준모델 보유)

축수 [N°]	3		4		5	
	작업 범위 [mm]	특 징	작업 범위 [mm]	특 징	작업 범위 [mm]	특 징
하 중 [kg]						
0.5	200	²⁾	200	²⁾		
	400	²⁾	400	²⁾		
1	600		600		750	
	900			With reinforced tool holder ³⁾	1350	
				For clean-room applications		
	1200	With reinforced tool holder ³⁾		With reinforced tool holder ³⁾ and reinforced fourth axis with reduced backlash		
		With 1x tool-actuation 'T' ²⁾		With reinforced tool holder ³⁾ and reduced backlash in the fourth axis		
				800		
				900	With reinforced tool holder ³⁾	
				1200	With reinforced tool holder ³⁾	
					With reinforced tool holder ³⁾ and reduced backlash in the fourth axis	
					With 1x tool-actuation 'T' ²⁾	
3	900		600		1350	
	1200	With 1x tool-actuation 'T' ²⁾	1200			
	1600	With 1x tool-actuation 'T' ²⁾	1600	With 1x tool-actuation 'T' ²⁾		
6	900	With 1x tool-actuation 'TS' ²⁾	900	²⁾	1350	
		²⁾	1200	²⁾	1750	
	1200	Without telescopic tube ^{2) 4)}	1300	With reinforced fourth axis		
		With increased tilt capacity		With 1x tool-actuation 'T' ²⁾		
		Without telescopic tube ^{2) 4)}		With 1x tool-actuation 'TS' ²⁾		
		With 1x tool-actuation 'T' ²⁾		With 1x tool-actuation 'TS' ²⁾		
		With 1x tool-actuation 'T' ²⁾		With automatic tool system		
		With increased tilt capacity	1400	With reinforced fourth axis		
	1300	With 1x tool-actuation 'TS' ²⁾	1400			
		With 1x tool-actuation 'T' ²⁾				
		With 1x tool-actuation 'TS' ²⁾				
		With 1x tool-actuation 'TS' ²⁾ With automatic tool system				
12	2000					
20	1200	With 1x tool-actuation 'TS' ²⁾	1400	²⁾		
				With 1x tool-actuation 'T' ²⁾		
	1400	With 1x tool-actuation 'T' ²⁾	1600	²⁾		
				With 1x tool-actuation 'T' ²⁾		
	1600	With 1x tool-actuation 'T' ²⁾		With 1x tool-actuation 'TS' ²⁾		
		With 1x tool-actuation 'TS' ²⁾				

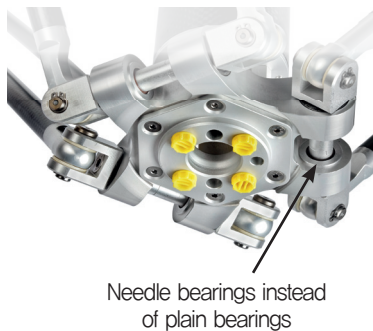
DELTA 3/4 axes



DELTA 5 axes



³⁾ Reinforced tool holder



Tool-actuation 'TS' ⁴⁾ Without telescopic tube



¹⁾ Please see separate overview for HIGEN MOTOR hygienic design robot mechanics.

²⁾ Internal media supply is not possible

► STANDARD DuoPod robot mechanics ¹⁾

축수 [N] 하 중 [kg]	2 (DuoPod "RV..." / "RVS...")		3 (DuoPod "RV..." / "RVS...")	
	폭 (x) 작업 범위 [mm]	특 징	폭 (x) 작업 범위 [mm]	특 징
3			750	With 1x tool-actuation 'T' ²⁾
				With single upper arm "RVS" ⁴⁾
			1150	single upper arm "RVS"
6			1250	With single upper arm "RVS" ^{2) 4)}
				With 1x tool-actuation 'T' ²⁾ With single upper arm "RVS" ⁴⁾
15	1000	²⁾		
		With 1x tool-actuation 'T'		
40	200	²⁾		
		²⁾		
	900	Serial arrangement possible ^{2) 3)}		
		Serial arrangement possible ²⁾ With 1x tool-actuation 'T'		
	1000	²⁾		
		With 1x tool-actuation 'T'		
	1300	²⁾		

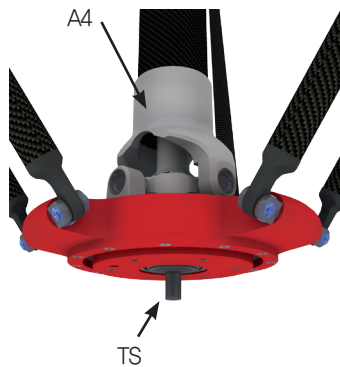
DuoPod "RV"



DuoPod "RV"



Tool-actuation 'TS'



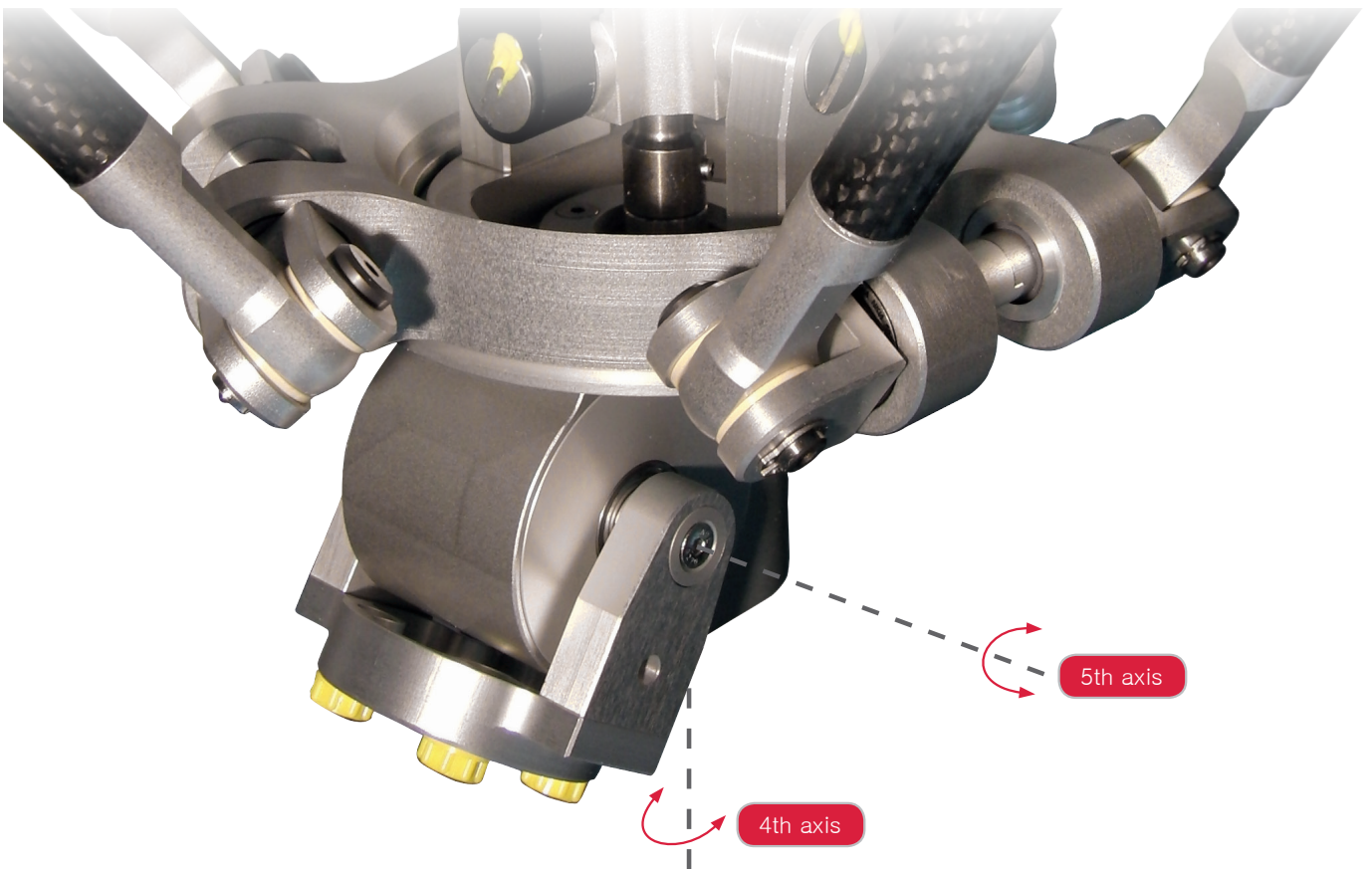
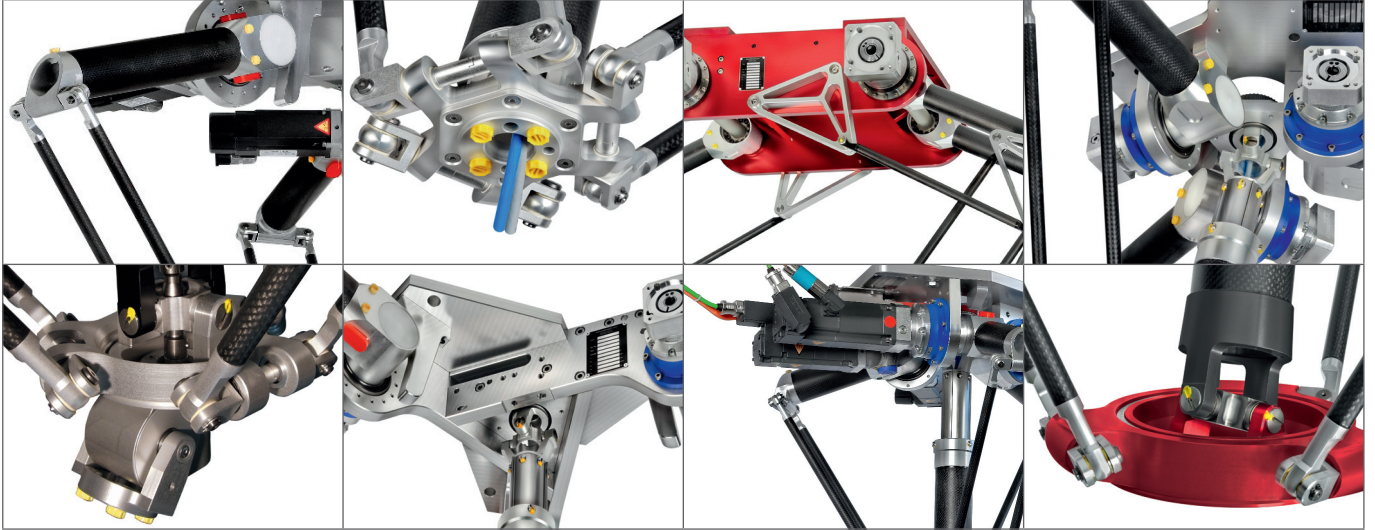
⁴⁾ Single arm construction "RVS..."



¹⁾ Please see separate overview for HIGEN MOTOR hygienic design robot mechanics.

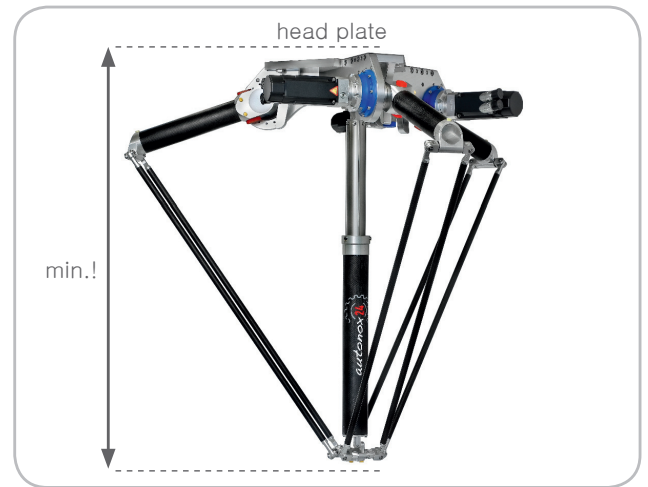
²⁾ Internal media supply is not possible

▶ 다양하고 독창적인 로봇 메커니즘



▶ 특 징

- **최상의 안정성**
관절의 연결 부분은 구동중 분리되지 않고 견고함
- **높은 효율**
구동축에 부착된 특수 감속기 구조로 효율 극대화
- **단순한 기계 구조**
모든 모터는 헤드 플레이트 아래 부착 되어, 기계 높이가 상대적으로 낮음
- **컴팩트한 디자인**



내장형 Media(Air, Oil 등) 공급 장치



외장형 Media(Air, Oil 등) 공급 장치

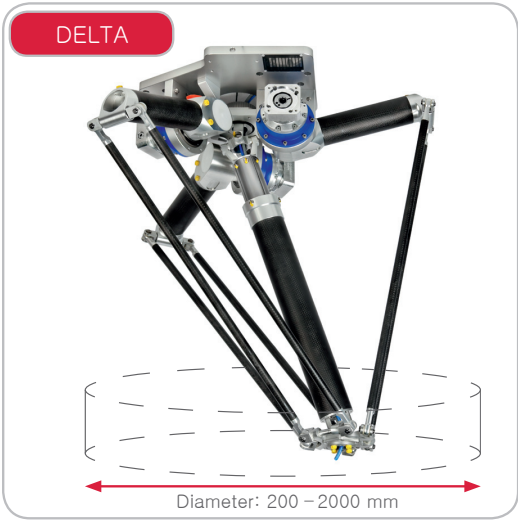
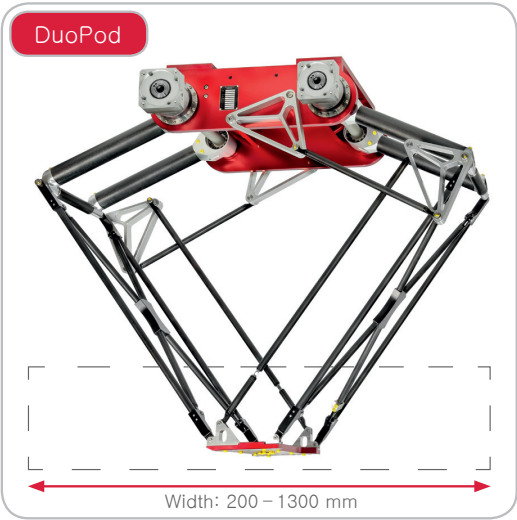


기구별 대응 Payloads

kg	DuoPod	DELTA
0,5	✓	✓
1		✓
3	✓	✓
6	✓	✓
12		✓
15	✓	
20		✓
40	✓	
50		✓
350	✓	



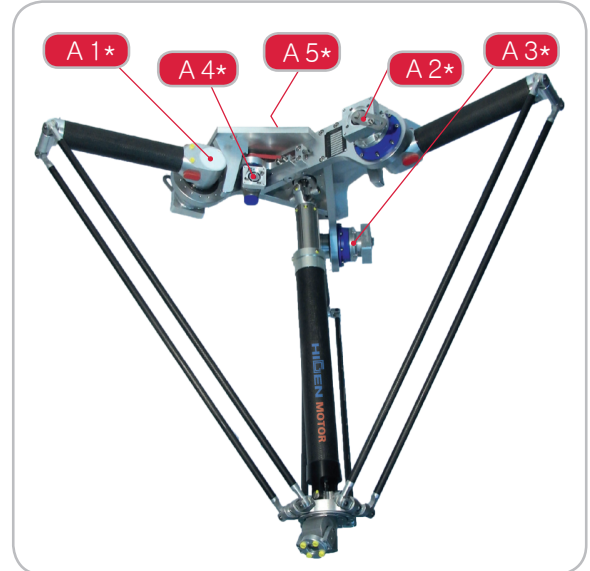
작업 영역



▶ 축

다관절 로봇이나 하이브리드 로봇과 달리, 델타 로봇의 모든 구동축의 모터와 감속기는 고정된 형태로 구성되며, 구동축의 자중을 최소화하여 동력학적 구동 성능을 극대화 함

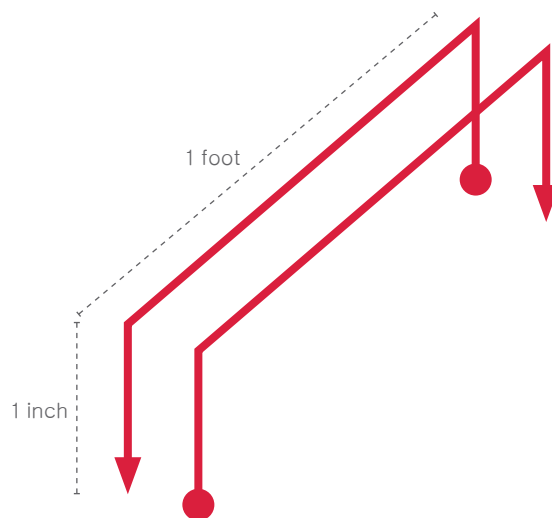
축수	로봇형태	모델명	직선 자유도	회전 자유도
2	DuoPod	RV2 / RVS2	2	0
3	DuoPod	RV3 / RVS3	2	1
3	DELTA	RL3	3	0
4	DELTA	RL4	3	1
5	DELTA	RL5	3	2



5축 델타 로봇

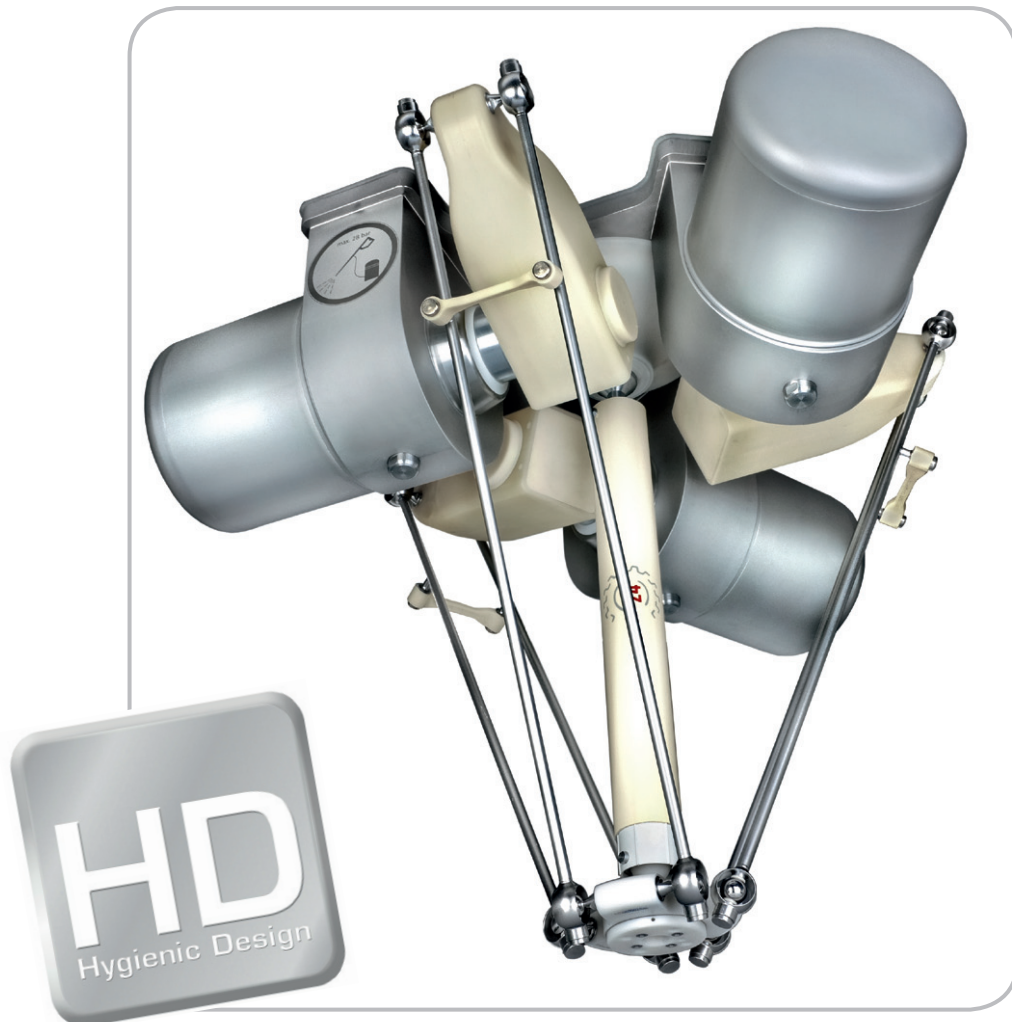
▶ 성능

– 분 당 최대 240 ISO 주기



▶ 특수 목적용 델타 로봇

- 코팅 되지 않은 표면 처리
- 접합부 및 모서리가 없는 구조
- 최대 압력 28 bar의 고압 클리너나 화학약품에 의해 정비(세척) 가능
화학품으로 깨끗해질 수 있음
- Media(Air, Oil 등) 공급장치 통합형 구조



▶ 제어기 제원표

품목	FDA-RMC2	FDA-RMC3
CPU	Freescall Power PC MPC5200 (400MHz - 760mips)	Freescall Power PC P2020 (1.2Ghz-Dual Core)
Memory	<ul style="list-style-type: none"> • 60MB compact-flash • 64MB DRAM • 128KB retentive RAM 	<ul style="list-style-type: none"> • 450MB compact-falsh • 512MB DDR3 RAM • 128KB retentive RAM



델타제어기
(FDA-RMC2 / RMC3)



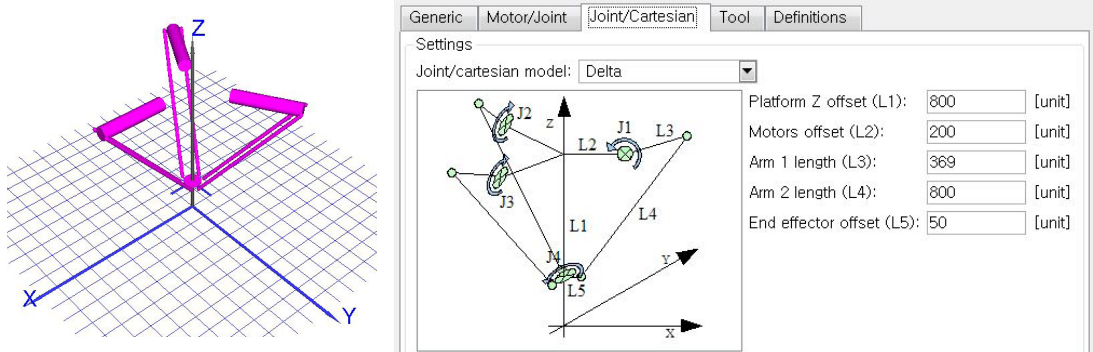
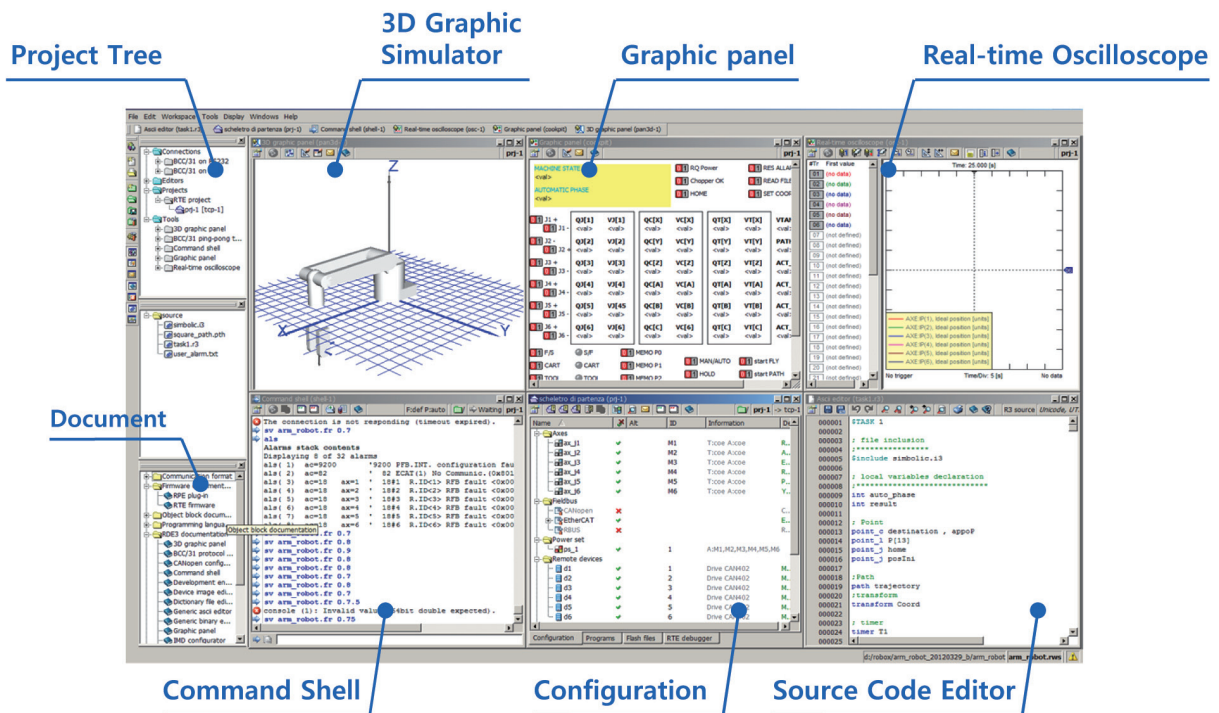
서보드라이브
(ADA7000-EC)

※ 용량 : 50W ~ 5.5kW (AC220V)

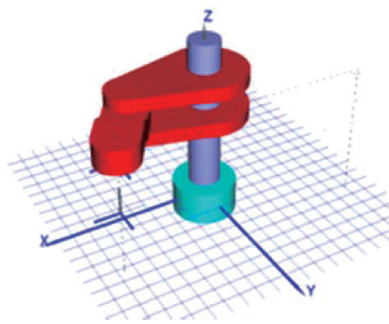
축수	FDA-RMC2 제어주기(ms)	FDA-RMC3 제어주기(ms)
4	1	0.5
8	1.5	0.5
16	2	1
24	4	1
32	5	1

구분	RMC2	RMC3	비고
USB-B	-	1	Programming
RS232	1	-	DF1, Modbus
RS422/485	1	1	DF1, Modbus
Ethernet	2	3	CoE, Modbus/TCP, UDP, TFTP
CAN	2	2	DS301, DS401/2, device net
PROFINET	-	1	DP slave
PROFIBUS	1	-	DP slave

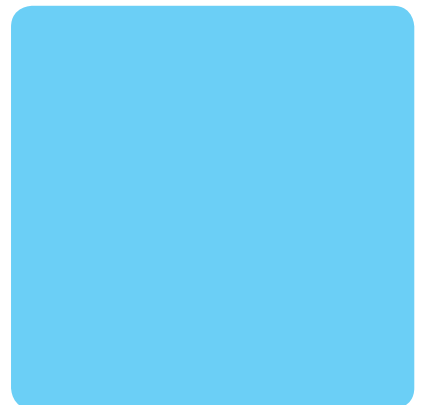
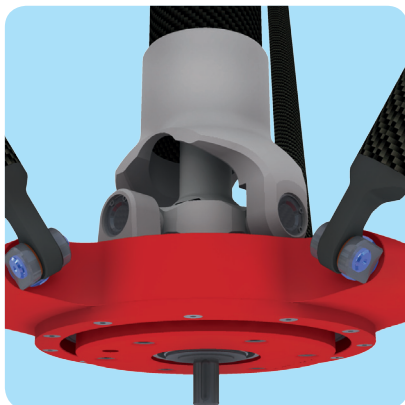
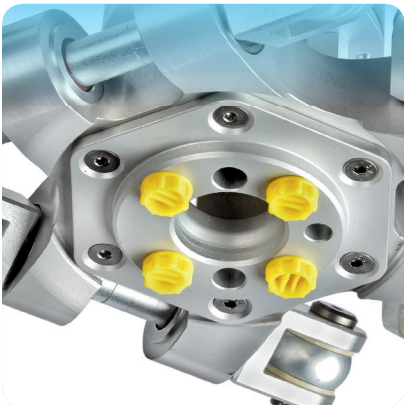
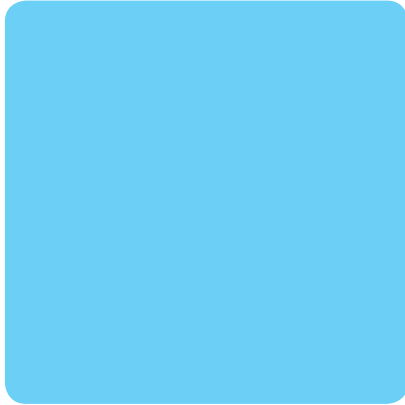
▶ 개발 환경



델타 로봇 기구 정보 세팅



스카라 로봇 시뮬레이션





2016. 10 델타로봇 Ver 1610.1

하이젠모터주식회사

- **서울사무소** 서울특별시 영등포구 국회대로 76길 22 2층(여의도동, 기계진흥회관)
TEL:(02)369-8213 ~ 4 / FAX:(02)369-8229
- **부산사무소** 부산광역시 사상구 학감대로 257 4층 413호(감전동, 보생빌딩)
TEL:070-7710-3113 / FAX:(051)710-5034
- **대구사무소** 대구광역시 북구 침산로 153 1204호(침산동, 명성푸르지오 오피스텔동)
TEL:(053)351-7745 / FAX:(053)351-7746
- **광주사무소** 광주광역시 서구 상무중앙로 114 1043호(차평동, 랜드피아 오피스텔)
TEL:(062)385-3020 / FAX:(062)385-3021

- **본사 및 공장** 경상남도 창원시 성산구 공단로 473번길 57
TEL:070-7710-3112 ~ 22
FAX:(055)600-3381
- **S V C** 경인지역 TEL:(032)571-2459
지 방 TEL:(070)7710-3311
- **홈페이지** <http://www.higenmotor.com>

※ 본 제품의 규격은 품질개선을 위하여 예고없이 변경될 수 있으므로 제품구입시 문의 바랍니다.