

# Ion Source Specifications

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# Document Revision Log

Revision	Description	Date
A	First release of document	June 2010



Full test procedures can be found in the *DuoSpray™ Ion Source Operator's Guide*.

## AB SCIEX TripleTOF™ 5600 Systems

**Table 1-1** Experiment Parameters and Values

Parameter	Value
Scan type	Product Ion
Product Of	609.2807
TOF Masses	150 Da to 650 Da
High Sensitivity	On
Accumulation time	0.200 seconds
Duration	10 minutes
Solution	0.0167 pmol/μL reserpine

**Table 1-2** DuoSpray® Ion Source Specifications

Instrument	Intensity (cps)
TurbolonSpray® probe	$5.0 \times 10^3$
APCI probe	$2.5 \times 10^3$

## QTRAP® and Triple Quadrupole Systems

**Table 1-3** Experiment Parameters and Values

Parameter	Value
Scan mode	MRM
Q1 mass	609.2 (or exact mass)
Q3 mass	195.1 (or exact mass)
Dwell time	100 ms
Solution	0.0167 pmol/μL of reserpine

**Table 1-4** DuoSpray™ Ion Source TurbolonSpray® Probe Specifications

Instrument	Specification (cps)
API 3200™ System	$5.0 \times 10^3$
3200 QTRAP® System	$5.0 \times 10^3$
API 4000™ System	$5.0 \times 10^4$

**Table 1-4 DuoSpray™ Ion Source TurbolonSpray® Probe Specifications (cont'd)**

<b>Instrument</b>	<b>Specification (cps)</b>
4000 QTRAP System	$5.0 \times 10^4$
API 5000™ System	$2.5 \times 10^5$
AB SCIEX QTRAP 5500 System	$2.5 \times 10^5$
AB SCIEX Triple Quad™ 5500 System	$2.5 \times 10^5$

**Table 1-5 DuoSpray™ Ion Source APCI Probe Specifications**

<b>Instrument</b>	<b>Specification (cps)</b>
API 3200™ System	$2.5 \times 10^3$
3200 QTRAP® System	$2.5 \times 10^3$
API 4000™ System	$2.5 \times 10^4$
4000 QTRAP System	$2.5 \times 10^4$
API 5000™ System	$1.25 \times 10^5$
AB SCIEX QTRAP 5500 System	$1.25 \times 10^5$
AB SCIEX Triple Quad™ 5500 System	$1.25 \times 10^5$

Full test procedures can be found in the *Turbo V™ Ion Source Operator's Guide*.

## AB SCIEX TripleTOF™ 5600 Systems

**Table 2-1** Experiment Parameters and Values

Parameter	Value
Scan mode	Product Ion
High Sensitivity	On
Product Of	609.2807
TOF Masses	150 Da to 650 Da
Accumulation time	0.200 seconds
Duration	10 minutes
Solution	0.0167 pmol/μL reserpine

**Table 2-2** Turbo V™ Ion Source Specifications

Instrument	Intensity (cps)
TurboIonSpray® probe	$1.0 \times 10^4$
APCI probe	$5.0 \times 10^3$

## QTRAP® and Triple Quadrupole Systems

**Table 2-3** Experiment Parameters and Values

Parameter	Value
Scan mode	MRM
Q1 mass	609.2 (or exact mass)
Q3 mass	195.1 (or exact mass)
Dwell time	100 ms
Solution	0.0167 pmol/μL reserpine

**Table 2-4** Turbo V™ Ion Source TurboIonSpray® Probe Specifications

Instrument	Specification (cps)
API 3200™ System	$1.0 \times 10^4$
3200 QTRAP® System	$1.0 \times 10^4$
API 4000™ System	$1.0 \times 10^5$
4000 QTRAP System	$1.0 \times 10^5$

**Table 2-4** Turbo V™ Ion Source TurbolonSpray® Probe Specifications (cont'd)

<b>Instrument</b>	<b>Specification (cps)</b>
API 5000™ System	$5.0 \times 10^5$
AB SCIEX QTRAP 5500 System	$5.0 \times 10^5$
AB SCIEX Triple Quad™ 5500 System	$5.0 \times 10^5$

**Table 2-5** Turbo V™ Ion Source APCI Probe Specifications

<b>Instrument</b>	<b>Specification (cps)</b>
API 3200™ System	$5.0 \times 10^3$
3200 QTRAP® System	$5.0 \times 10^3$
API 4000™ System	$5.0 \times 10^4$
4000 QTRAP System	$5.0 \times 10^4$
API 5000™ System	$2.5 \times 10^5$
AB SCIEX QTRAP 5500 System	$2.5 \times 10^5$
AB SCIEX Triple Quad™ 5500 System	$2.5 \times 10^5$

Full test procedures can be found in the *PhotoSpray® Ion Source Operator's Guide*.

## QTRAP® and Triple Quadrupole Systems

**Table 3-1** Experiment Parameters and Values

Parameter	Value
Scan mode	MRM
Q1 mass	609.2 (or exact mass)
Q3 mass	195.0 (or exact mass)
Dwell time	100 ms
Solution	0.0167 pmol/μL of reserpine

**Table 3-2** PhotoSpray® Ion Source Specifications

Instrument	Specification (cps)
API 3200™ System	$2.5 \times 10^3$
3200 QTRAP® System	$2.5 \times 10^3$
API 4000™ System	$5.0 \times 10^4$
4000 QTRAP System	$5.0 \times 10^4$
API 5000™ System	$2.5 \times 10^5$
AB SCIEX QTRAP 5500 System	$2.5 \times 10^5$
AB SCIEX Triple Quad™ 5500 System	$2.5 \times 10^5$



## DuoSpray™ Ion Source Test Results

Table 4-1 DuoSpray™ Ion Source Test Results

Probe	Specification (cps)	Results (cps)
TurboIonSpray® Probe	$5.0 \times 10^3$	
APCI Probe	$2.5 \times 10^3$	
<input type="checkbox"/> Specification passed		

## Turbo V™ Ion Source Test Results

Table 4-2 Turbo V™ Ion Source Test Results

Probe	Specification (cps)	Results (cps)
TurboIonSpray® Probe	$1.0 \times 10^4$	
APCI Probe	$5.0 \times 10^3$	
<input type="checkbox"/> Specification passed		



## DuoSpray™ Ion Source Test Results

Table 5-1 DuoSpray™ Ion Source Test Results

Probe	Specification (cps)	Results (cps)
TurbolonSpray® Probe	3200 series systems: $5.0 \times 10^3$ 4000 series systems: $5.0 \times 10^4$ 5000 and 5500 series systems: $2.5 \times 10^5$	
APCI Probe	3200 series systems: $2.5 \times 10^3$ 4000 series systems: $2.5 \times 10^4$ 5000 and 5500 series systems: $1.25 \times 10^5$	
<input type="checkbox"/> <b>Specification passed</b>		

## Turbo V™ Ion Source Test Results

Table 5-2 Turbo V™ Ion Source Test Results

Probe	Specification (cps)	Results (cps)
TurbolonSpray® Probe	3200 series systems: $1.0 \times 10^4$ 4000 series systems: $1.0 \times 10^5$ 5000 and 5500 series systems: $5.0 \times 10^5$	
APCI Probe	3200 series systems: $5.0 \times 10^3$ 4000 series systems: $5.0 \times 10^4$ 5000 and 5500 series systems: $2.5 \times 10^5$	
<input type="checkbox"/> <b>Specification passed</b>		

## PhotoSpray® Ion Source Test Results

Table 5-3 PhotoSpray® Ion Source Test Results

Specification (cps)	Results (cps)
3200 series systems: $2.5 \times 10^3$ 4000 series systems: $5.0 \times 10^4$ 5000 and 5500 series systems: $2.5 \times 10^5$	
<input type="checkbox"/> <b>Specification passed</b>	



# AB SCIEX TripleTOF™ 5600 System Parameters

A

The following table contains generic parameters for the AB SCIEX TripleTOF™ 5600 system. The first number under each scan type is the preset value; the range of numbers is the accessible range for each parameter.

**Table A-1 AB SCIEX TripleTOF™ 5600 System Parameters**

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	TOF MS	MS/MS	Q1	TOF MS	MS/MS
GS1	GS1	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90
GS2	GS2	15 0 to 90	15 0 to 90	15 0 to 90	15 0 to 90	15 0 to 90	15 0 to 90
CUR	CUR	25 10 to 55	25 10 to 55	25 10 to 55	25 10 to 55	25 10 to 55	25 10 to 55
TEM <sup>(1)(2)(3)</sup>	TEM	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750
ISVF <sup>(1)(2)</sup> (ISVF = IS – OR)	IS	5000 0 to 5500	5000 0 to 5500	5500 0 to 5500	–4000 –4500 to 0	–4000 –4500 to 0	–4000 –4500 to 0
ISVF <sup>(4)</sup> (ISVF = IS – OR)	IS	1000 0 to 4000	1000 0 to 4000	1000 0 to 4000	–1000 –4000 to 0	–1000 –4000 to 0	–1000 –4000 to 0
NC <sup>(3)</sup>	NC	3 0 to 5	3 0 to 5	3 0 to 5	–3 –5 to 0	–3 –5 to 0	–3 –5 to 0
IHT <sup>(4)</sup>	IHT	150 0 to 225	150 0 to 225	150 0 to 225	150 0 to 225	150 0 to 225	150 0 to 225
OR (DP = OR – Q0)	DP	80 0 to 300	100 0 to 300	80 0 to 300	–80 –300 to 0	–80 –300 to 0	–80 –300 to 0
Q0	Q0	40 –300 to 300	n/a	n/a	–40 –300 to 300	n/a	n/a
Q0 (CE = Q0 – RO2)	CE	n/a	10 5 to 150	30 0 to 150	n/a	–10 –150 to –5	–30 –150 to 0
CES	CES	n/a	n/a	0 0 to 50	n/a	n/a	0 0 to 50
RO1 (IE1 = Q0 – RO1)	IE1	2 –300 to 300	2 –300 to 300	2 –300 to 300	–2 –300 to 300	–2 –300 to 300	–2 –300 to 300

(1) DuoSpray™ ion source (2) TurbolonSpray® probe (3) APCI probe, Turbo V™ ion source  
(4) NanoSpray® ion source

Table A-1 AB SCIEX TripleTOF™ 5600 System Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	TOF MS	MS/MS	Q1	TOF MS	MS/MS
IQ2	IQ2	0 -300 to 300	25 -300 to 300	0 -300 to 300	0 -300 to 300	-25 -300 to 300	0 -300 to 300
CAD	CAD	6 0 to 12	6 0 to 12	6 0 to 12	6 0 to 12	6 0 to 12	6 0 to 12
RO2	RO2	30 -57 to 57	30 -57 to 57	30 -57 to 57	-30 -57 to 57	-30 -57 to 57	-30 -57 to 57
IRD	IRD	30 6 to 1000	30 6 to 1000	30 6 to 1000	30 6 to 1000	30 6 to 1000	30 6 to 1000
IRW	IRW	15 5 to 1000	15 5 to 1000	15 5 to 1000	15 5 to 1000	15 5 to 1000	15 5 to 1000
LNR	LNR	-15000 -20000 to 20000	-15000 -20000 to 20000	-15000 -20000 to 20000	15000 -20000 to 20000	15000 -20000 to 20000	15000 -20000 to 20000
CEM	CEM	2300 0 to 3000	2200 0 to 3000	2200 0 to 3300	2300 0 to 3300	2200 0 to 3300	2200 0 to 3300
OFS	OFS	30 -100 to 100	30 -100 to 100	30 -100 to 100	-60 -100 to 100	-60 -100 to 100	-60 -100 to 100
MGV	MGV	-975 -2000 to 2000	-975 -2000 to 2000	-975 -2000 to 2000	975 -2000 to 2000	975 -2000 to 2000	975 -2000 to 2000
MPV	MPV	2600 -4000 to 4000	2600 -4000 to 4000	2600 -4000 to 4000	-2600 -4000 to 4000	-2600 -4000 to 4000	-2600 -4000 to 4000

(1) DuoSpray™ ion source (2) TurbolonSpray® probe (3) APCI probe, Turbo V™ ion source  
(4) NanoSpray® ion source

# 5500 Series System Parameters

B

The following table contains generic parameters for the 5500 series of instruments. The first number under each scan type is the preset value; the range of numbers is the accessible range for each parameter.

**Table B-1 5500 Series System Parameters**

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
CUR	CUR	20 10 to 55	20 10 to 55	20 10 to 55	20 10 to 55	20 10 to 55	20 10 to 55
CAD	CAD	0 n/a	6 n/a	Med (9) 0 to 12	0 n/a	6 n/a	Med (9) 0 to 12
IS <sup>(1)(2)</sup>	IS <sup>(1)(2)</sup>	5500 0 to 5500	5500 0 to 5500	5500 0 to 5500	-4500 -4500 to 0	-4500 -4500 to 0	-4500 -4500 to 0
NC <sup>(3)</sup>	NC <sup>(3)</sup>	3 0 to 5	3 0 to 5	3 0 to 5	-3 -5 to 0	-3 -5 to 0	-3 -5 to 0
TEM <sup>(2)(3)</sup>	TEM <sup>(2)(3)</sup>	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750
OR (DP = OR)	DP	100 0 to 300	100 0 to 300	100 0 to 300	-100 -300 to 0	-100 -300 to 0	-100 -300 to 0
Q0 (EP = -Q0)	EP	10 2 to 15	10 2 to 15	10 2 to 15	-10 -15 to -2	-10 -15 to -2	-10 -15 to -2
IQ1 (IQ1 = Q0 + offset)	IQ1	Q0 + (-0.5) -0.1 to -2	Q0 + (-0.5) -0.1 to -2	Q0 + 0.5 -0.1 to -2	Q0 + 0.5 0.1 to 2	Q0 + 0.5 0.1 to 2	Q0 + 0.5 0.1 to 2
ST (ST = Q0 + offset)	ST	Q0 + (-8) -12 to -5	Q0 + (-8) -12 to -5	Q0 + (-8) -12 to -5	Q0 + 8 5 to 12	Q0 + 8 5 to 12	Q0 + 8 5 to 12
RO1 (IE1 = Q0 - RO1)	IE1	1 0 to 3	n/a	1 0 to 3	-1 -3 to -0	n/a	-1 -3 to -0
IQ2 (IQ2 = Q0 + offset)	IQ2	Q0+ (-10) -30 to -8	Q0+ (-10) -30 to -8	Q0+ (-10) -30 to -8	Q0 + 10 8 to 30	Q0 + 10 8 to 30	Q0 + 10 8 to 30
RO2	RO2	-20 n/a	-20 n/a	n/a	20 n/a	20 n/a	n/a
RO2 (CE = Q0 - RO2)	CE	n/a	n/a	30 5 to 180	n/a	n/a	-30 -180 to -5

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
(4) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

Table B-1 5500 Series System Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
ST3 (ST3 = RO2 + offset)	ST3	RO2 – 10 –30 to –5	n/a	n/a	RO2 + 10 5 to 30	n/a	n/a
ST3 (CXP = RO2 – ST3)	CXP	n/a	15 0 to 55	15 0 to 55	n/a	–15 –55 to 0	–15 –55 to 0
RO3	RO3	–50 n/a	n/a	n/a	50 n/a	n/a	n/a
RO3 (IE3 = RO2 – RO3)	IE3	n/a	1 0 to 5	1 0 to 5	n/a	–1 –5 to 0	–1 –5 to 0
DF	DF	–200 –300 to 0	–200 –300 to 0	–200 –300 to 0	200 0 to 300	200 0 to 300	200 0 to 300
CEM	CEM	1800 0 to 3300	1800 0 to 3300	1800 0 to 3300	1800 0 to 3300	1800 0 to 3300	1800 0 to 3300
GS1	GS1	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90
GS2	GS2	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90
IHT	IHT	150 0 to 250	150 0 to 250	150 0 to 250	150 0 to 250	150 0 to 250	150 0 to 250
sdp <sup>(4)</sup>	sdp	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
(4) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

Table B-2 AB SCIEX QTRAP® 5500 System Parameters for LIT Scan Types Only

Parameter ID	Access ID	Positive ion mode	Negative ion mode
CAD	CAD	High Low–High	High Low–High
AF2**	AF2	0.100 0 to 200	0.100 0 to 200
AF3	AF3	Mass-Speed Dependent 0 to 10	Mass-Speed Dependent 0 to 10
EXB	EXB	Mass-Speed Dependent –165 to 0	Mass-Speed Dependent 0 to 165

\*\* MS/MS/MS only

**Table B-2 AB SCIEX QTRAP® 5500 System Parameters for LIT Scan Types Only (cont'd)**

<b>Parameter ID</b>	<b>Access ID</b>	<b>Positive ion mode</b>	<b>Negative ion mode</b>
CES	CES	0 0 to 50	0 0 to 50
ROS (Q0 – ROS)	CE	10 5 to 180	-10 -5 to -180
** MS/MS/MS only			



# API 5000™ System Parameters



The following table contains generic parameters for the API 5000™ system. The first number under each scan type is the preset value; the range of numbers is the accessible range for each parameter.

**Table C-1** API 5000™ System Parameters

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
CUR	CUR	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50
CAD	CAD	0 n/a	1 0 to 12	4 0 to 10	0 n/a	1 0 to 12	4 0 to 12
IS <sup>(1)(2)</sup>	IS <sup>(1)(2)</sup>	5500 0 to 5500	5500 0 to 5500	5500 0 to 5500	-4500 -4500 to 0	-4500 -4500 to 0	-4500 -4500 to 0
NC <sup>(3)</sup>	NC <sup>(3)</sup>	3 0 to 5	3 0 to 5	3 0 to 5	-3 -5 to 0	-3 -5 to 0	-3 -5 to 0
TEM <sup>(2)(3)</sup>	TEM <sup>(2)(3)</sup>	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750
OR (DP = OR)	DP	120 0 to 400	120 0 to 400	120 0 to 400	-100 -400 to 0	-100 -400 to 0	-100 -400 to 0
Q0 (EP = -Q0)	EP	10 15 to 2	10 15 to 2	10 15 to 2	-10 -15 to -2	-10 -15 to -2	-10 -15 to -2
IQ1 (IQ1 = Q0 + offset)	IQ1	Q0 + (-1) -0.5 to -2	Q0 + (-1) -0.5 to -2	Q0 + (-1) -0.5 to -2	Q0 + 1 0.5 to 2	Q0 + 1 0.5 to 2	Q0+1 0.5 to 2
ST (ST = Q0 + offset)	ST	Q0 + (-7) -8 to -4	Q0 + (-7) -8 to -4	Q0 + (-7) -8 to -4	Q0 + 7 4 to 8	Q0 + 7 4 to 8	Q0 + 7 4 to 8
RO1 (IE1 = Q0 - RO1)	IE1	1 0.5 to 2	n/a	1 0.5 to 2	-1 -2 to -0.5	n/a	-1 -2 to -0.5
RO1 (IE1 = Q0 + offset)	RO1	n/a	Q0 + (-2) -0.5 to -2	n/a	n/a	Q0 + 2 0.5 to 2	n/a
IQ2 (IQ2 = Q0 + offset)	IQ2	Q0+ (-20) -100 to -8	Q0+ (-20) n/a	Q0+ (-20) n/a	Q0 + 20 100 to 8	Q0 + 20 n/a	Q0 + 20 n/a
RO2	RO2	-100 -200 to 200	-20 -145 to -2	n/a	100 -200 to 200	20 2 to 145	n/a

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
 (4) 1=ON and 0=OFF (5) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

Table C-1 API 5000™ System Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
RO2 (CE = Q0 – RO2)	CE	n/a	n/a	30 5 to 130	n/a	n/a	-30 -130 to -5
ST3	ST3	-120 -200 to 200	n/a	n/a	150 -200 to 200	n/a	n/a
ST3 (CXP = RO2 – ST3)	CXP	n/a	20 0 to 55	15 0 to 55	n/a	-20 -55 to 0	-15 -55 to 0
RO3	RO3	-150 -200 to 200	n/a	n/a	100 -200 to 200	n/a	n/a
RO3 (IE3 = RO2 – RO3)	IE3	n/a	2 -0.5 to 5	2 -0.5 to 5	n/a	-1.5 -5 to 0	-1.5 -5 to 0
DF	DF	-200 -400 to 0	-200 -400 to 0	-200 -400 to 0	200 0 to 400	200 0 to 400	200 0 to 400
CEM	CEM	2000 500 to 3297	2000 500 to 3297	2000 500 to 3297	2000 500 to 3297	2000 500 to 3297	2000 500 to 3297
GS1	GS1	20 0 to 90	20 0 to 90	20 0 to 90	15 0 to 90	15 0 to 90	20 0 to 90
GS2	GS2	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90
ihe <sup>(4)</sup>	ihe	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1
IHT	IHT	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250
svp <sup>(5)</sup>	svp	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
(4) 1=ON and 0=OFF (5) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

# 4000 Series System Parameters

D

The following tables contains generic parameters for the 4000 series of instruments. The first number under each scan type is the preset value; the range of numbers is the accessible range for each parameter.

**Table D-1 4000 Series Instrument Parameters**

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
CUR	CUR	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50
CAD	CAD	0	1 0 to 12	6 0 to 12	0 0 to 12	1 0 to 12	6 0 to 12
IS <sup>(1)(2)</sup>	IS <sup>(1)(2)</sup>	5000 0 to 5500	5000 0 to 5500	5000 0 to 5500	-4200 -4500 to 0	-4200 -4500 to 0	-4200 -4500 to 0
NC <sup>(3)</sup>	NC <sup>(3)</sup>	3 0 to 5	3 0 to 5	3 0 to 5	-3 -5 to 0	-3 -5 to 0	-3 -5 to 0
TEM <sup>(2)(3)</sup>	TEM <sup>(2)(3)</sup>	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750
OR (DP = OR)	DP	20 0 to 400	20 0 to 400	20 0 to 400	-20 -400 to 0	-20 -400 to 0	-20 -400 to 0
Q0 (EP = -Q0)	EP	10 15 to 2	10 15 to 2	10 15 to 2	-10 -2 to -15	-10 -2 to -15	-10 -2 to -15
IQ1 (IQ1 = Q0 + offset)	IQ1	Q0 + (-1) -0.5 to -2	Q0 + (-1) -0.5 to -2	Q0 + (-1) -0.5 to -2	Q0 + 1 0.5 to 2	Q0 + 1 0.5 to 2	Q0 + 1 0.5 to 2
ST (ST = Q0 + offset)	ST	Q0 + (-5) -7 to -4	Q0 + (-5) -7 to -4	Q0 + (-5) -7 to -4	Q0 + 5 4 to 7	Q0 + 5 4 to 7	Q0 + 5 4 to 7
RO1 (IE1 = Q0 - RO1)	IE1	1 0.5 to 2	n/a	1 0.5 to 2	-1 -2 to -0.5	n/a	-1 -2 to -0.5
RO1 (IE1 = Q0 + offset)	RO1	n/a	Q0 + (-1) -0.5 to -2	n/a	n/a	Q0 + 1 0.5 to 2	n/a
IQ2 (IQ2 = Q0 + offset)	IQ2	Q0+ (-8) n/a	Q0+ (-8) n/a	Q0+ (-8) n/a	Q0 + 8 n/a	Q0 + 8 n/a	Q0 + 8 n/a
RO2	RO2	-60 -145 to -20	-20 -145 to -20	n/a	60 60 to 100	20 20 to 145	n/a

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
 (4) 1=ON and 0=OFF (5) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

Table D-1 4000 Series Instrument Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
RO2 (CE = Q0 – RO2)	CE	n/a	n/a	30 5 to 130	n/a	n/a	-30 -130 to -5
ST3	ST3	-80 -80 to -200	n/a	n/a	80 80 to 200	n/a	n/a
ST3 (CXP = RO2 – ST3)	CXP	n/a	15 0 to 55	15 0 to 55	n/a	-15 -55 to 0	-15 -55 to 0
RO3	RO3	-62 -60 to -200	n/a	n/a	62 60 to 200	n/a	n/a
RO3 (IE3 = RO2 – RO3)	IE3	n/a	2 -0.5 to 5	2 -0.5 to 5	n/a	-2 -5 to 0	-2 -5 to 0
C2	C2	RO3 + 0 n/a	RO3 + 0 n/a	RO3 + 0 n/a	RO3 + 0 n/a	RO3 + 0 n/a	RO3 + 0 n/a
DF	DF	0 -400 to 0	0 -400 to 0	0 -400 to 0	0 0 to 400	0 0 to 400	0 0 to 400
CEM	CEM	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297
GS1	GS1	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90
GS2	GS2	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90
ihe <sup>(4)</sup>	ihe	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1	1 0 or 1
IHT	IHT	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250	40 10 to 250
svp <sup>(5)</sup>	svp	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2	1 1 or 2

(1) Turbo V™ ion source (2) TurbolonSpray® probe (3) APCI probe  
(4) 1=ON and 0=OFF (5) DuoSpray™ ion source (1=TurbolonSpray probe and 2=APCI probe)

Table D-2 4000 QTRAP® System Parameters for LIT Scan Types Only

Parameter ID	Access ID	Positive ion mode	Negative ion mode
CAD	CAD	High Low-High	High Low-High
AF2**	AF2	100 0 to 200	100 0 to 200

\*\* MS/MS/MS only

**Table D-2** 4000 QTRAP® System Parameters for LIT Scan Types Only (cont'd)

Parameter ID	Access ID	Positive ion mode	Negative ion mode
AF3	AF3	Mass-Speed Dependent 0 to 5	Mass-Speed Dependent 0 to 5
EXB	EXB	Mass-Speed Dependent -200 to 0	Mass-Speed Dependent 0 to 200
CES	CES	0 -50 to 50	0 -50 to 50
ROS (Q0 – ROS)	CE	30 5 to 130	-30 -5 to -130
** MS/MS/MS only			



# 3200 Series System Parameters

E

The following tables contain generic parameters for the 3200 series of instruments. The first number under each scan type is the preset value; the range of numbers is the accessible range for each parameter.

**Table E-1** 3200 Series System Parameters

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
CUR	CUR	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50	10 10 to 50
CAD	CAD	0 n/a	2 0 to 12	3 0 to 12	0 n/a	2 0 to 12	3 0 to 12
IS <sup>(1)</sup>	IS	5000 0 to 5500	5000 0 to 5500	5000 0 to 5500	-4200 -4500 to 0	-4200 -4500 to 0	-4200 -4500 to 0
IS <sup>(2)</sup>	IS	1000 0 to 5500	1000 0 to 5500	1000 0 to 5500	-1000 -4500 to 0	-1000 -4500 to 0	-1000 -4500 to 0
IS <sup>(4)</sup>	IS	1500 0 to 2500	1500 0 to 2500	1500 0 to 2500	-1500 -2500 to 0	-1500 -2500 to 0	-1500 -2500 to 0
NC <sup>(3)</sup>	NC	1 0 to 5	1 0 to 5	1 0 to 5	-1 -5 to 0	-1 -5 to 0	-1 -5 to 0
NC <sup>(5)</sup>	NC	1 0 to 5	3 0 to 5	3 0 to 5	-3 -5 to 0	-3 -5 to 0	-3 -5 to 0
TEM <sup>(1,3,4,5)</sup>	TEM	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750	0 0 to 750
OR	DP	20 0 to 400	20 0 to 400	20 0 to 400	-20 -400 to 0	-20 -400 to 0	-20 -400 to 0
Q0 (EP = -Q0)	EP	10 1 to 12	10 1 to 12	10 1 to 12	-10 -12 to -1	-10 -12 to -1	-10 -12 to -1
IQ1 (IQ1 = Q0 + offset)	IQ1	Q0 +(- 1) -2 to -1	Q0 +(- 1) -2 to -1	Q0 +(- 1) -2 to -1	Q0 + 1 1 to 2	Q0 + 1 1 to 2	Q0 + 1 1 to 2
ST (ST = Q0 + offset)	ST	Q0 +(-5) -8 to -2	Q0 +(-5) -8 to -2	Q0 +(-5) -8 to -2	Q0 + 5 2 to 8	Q0 + 5 2 to 8	Q0 + 5 2 to 8
RO1 (IE1 = Q0 - RO1)	IE1	1 0.5 to 2	n/a	1 0.5 to 2	-1 -2 to -0.5	n/a	-1 -2 to -0.5

(1) Turbo V™ ion source (2) NanoSpray® ion source  
(3) DuoSpray™ ion source (1=TurbolonSpray® probe and 2=APCI probe)  
(4) PhotoSpray® ion source (5) APCI probe (6) 1=On, 0=Off

Table E-1 3200 Series System Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
RO1 (RO1 = Q0 + offset)	RO1	n/a	Q0 + (-2) -2 to -0.5	n/a	n/a	Q0 + 2 0.5 to 2	n/a
IQ2 (CEP = Q0 - IQ2)	CEP	Mass Dependent 0 to 188	n/a	Mass Dependent 0 to 188	Mass Dependent -188 to 0	n/a	Mass Dependent -188 to 0
IQ2 (IQ2 = RO2 + offset)	IQ2	n/a	RO2 + 0 0 to 2	n/a	n/a	RO2 + 0 -2 to 0	n/a
RO2 (CE = Q0 - RO2)	CE	n/a	n/a	30 5 to 130	n/a	n/a	-30 -130 to -5
RO2	RO2	-100 -150 to -20	-20 -130 to -5	n/a	100 20 to 150	20 5 to 130	n/a
IQ3 (CXP = RO2 - IQ3)	CXP	n/a	Mass Dependent 0 to 58	5 0 to 58	n/a	Mass Dependent -58 to 0	-5 -58 to 0
IQ3	IQ3	-125 -200 to -100	n/a	n/a	125 100 to 200	n/a	n/a
RO3 (IE3 = RO2 - RO3)	IE3	n/a	4 0.5 to 8	4 0.5 to 8	n/a	-4 -8 to -0.5	-4 -8 to -0.5
RO3	RO3	-150 -200 to -150	n/a	n/a	150 150 to 200	n/a	n/a
EX	EX	-200 n/a	-200 n/a	-200 n/a	200 n/a	200 n/a	200 n/a
DF	DF	-100 -400 to 0	-100 -400 to 0	-100 -400 to 0	100 0 to 400	100 0 to 400	100 0 to 400
CEM	CEM	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297	1800 500 to 3297
GS1	GS1	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90	20 0 to 90
GS2	GS2	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90	0 0 to 90
ihe <sup>(6)</sup>	ihe	1 0 to 1	1 0 to 1	1 0 to 1	1 0 to 1	1 0 to 1	1 0 to 1

(1) Turbo V™ ion source (2) NanoSpray® ion source  
(3) DuoSpray™ ion source (1=TurbolonSpray® probe and 2=APCI probe)  
(4) PhotoSpray® ion source (5) APCI probe (6) 1=On, 0=Off

Table E-1 3200 Series System Parameters (cont'd)

Parameter ID	Access ID	Positive ion mode			Negative ion mode		
		Q1	Q3	MS/MS	Q1	Q3	MS/MS
C2	C2	0	0	0	0	0	0
		n/a	n/a	n/a	n/a	n/a	n/a
XA3	XA3	0	0	0	0	0	0
		n/a	n/a	n/a	n/a	n/a	n/a
XA2	XA2	0	0	0	0	0	0
		n/a	n/a	n/a	n/a	n/a	n/a
IHT <sup>(2)</sup>	IHT	40	40	40	40	40	40
		0 to 250	0 to 250	0 to 250	0 to 250	0 to 250	0 to 250
svp <sup>(3)</sup>	svp	1	1	1	1	1	1
		1 to 2	1 to 2	1 to 2	1 to 2	1 to 2	1 to 2

(1) Turbo V™ ion source (2) NanoSpray® ion source  
(3) DuoSpray™ ion source (1=TurbolonSpray® probe and 2=APCI probe)  
(4) PhotoSpray® ion source (5) APCI probe (6) 1=On, 0=Off

Table E-2 3200 QTRAP® System Parameters For LIT Scan Types Only

Parameter ID	Access ID	Positive ion mode	Negative ion mode
CAD	CAD	High Low-Medium-High	High Low-Medium-High
FI2	CEP	Mass Dependent 0 to 188	Mass Dependent -188 to 0
ROS (Q0 – RO2)	CE	30 5 to 130	-30 -5 to -130
AF2*	AF2	100 0 to 200	100 0 to 200
AF3	AF3	Mass-Speed Dependent 0 to 5	Mass-Speed Dependent 0 to 5
EXB	EXB	Mass-Speed Dependent -200 to 0	Mass-Speed Dependent 0 to 200
DF	DF	-400 n/a	400 n/a
C2B	C2B	Mass-Speed Dependent -500 to 500	Mass-Speed Dependent -500 to 500
CES	CES	0 -50 to 50	0 -50 to 50

\* MS/MS/MS only \*\* Resolution Parameter

